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Form From Color: Color Generated Form

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Form From Color: Color Generated Form

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Architecture

December 2022

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Contents

Project Summary, 3

Introduction, 4-5

Background Literature Review, 6-12

Project Development Plan, 13

Process Description, 14

Results and Outcomes:

Series 1, 15-43

Series 2, 44-74

Series 3, 75-138

Conclusion, 139-147

Discussion, 148-153

References, 154

Project Summary

Form From Color: Color Generated Form evaluates the ability of color to be a three-dimensional and architectural space creator. While complex in history and connotations, color within this capstone is assigned a theoretical characteristic by which forms are generated from color solely. The produced results suggest that color can be a form generator and can have more spatial applications in design. This capstone has the mode of inquiry of a Creative Artistic Inquiry.

There are three series of tests within this capstone. All of which are based on Johannes Itten's belief that primary colors correspond with primary shapes. The first series explores the relationships between shape and color only. The second series explores the relationships between shape and color with the addition of the color wheel properties. The third series explores the relationships between shape and color using the color mixing theory.

Introduction

This project began from a personal desire to produce a capstone that belonged to the research method category of a Creative Artistic Inquiry. Due to an interest in both art and architecture and how they can be combined, the development of the concept for this capstone, *Form From Color: Color Generated Form* emerged. Additionally, this project is an opportunity to show that the inherent qualities of color can be used to produce form itself and can be a more useful tool in form and space creation than simply being applied to surfaces. The idea that the qualities of color can be combined or mixed iteratively to produce architectural form will be explored within this capstone.

Throughout architecture school, I have learned that color has spatial and emotive properties. This began the prompting of questions for this capstone. Can solely the use of color generate form? Can the relationships between colors be applied to form generation? Can color theory and principles be used to create form? If color has spatial qualities, why aren't we using it more directly to generate forms as designers? This capstone concept began with researching ways to test if form could be created from color itself, and the studies included in this capstone portray possibilities of these generated form findings.

While searching for defined and focused ways to generate color into potential architectural forms, the discovered books *Dimensional Color* by Lois Swirnoff and *The Elements of Color* by Johannes Itten became profound resources for this capstone. From *The Elements of Color*, a diagram showing the relationship between fundamental color and shapes became a launching point for the series of iterative tests included in this capstone. From *Dimensional Color*, the explanation of color and provided theories helped frame and prompt the questions asked within this capstone. The iterative studies and tests within *Dimensional Color* also helped inspire the series of tests included in this capstone. Lois Swirnoff asked: "Can color be rationalized as an aspect of architectonic space or form?"¹ which is a direct component of what this capstone's test results aim to produce. The studies provided by Lois Swirnoff were "based upon the idea that color is a constituent of form. It begins with the premise that color can be considered a dimension. As part of the process of visual organization, color components, hue and brightness appear to interact fundamentally with surface, volume, and space to influence their appearance"², of which is an incredibly important aspect of what makes this capstone of color generated forms relevant.

Three iterative studies of turning color into form are explored in this capstone, and these studies aim to be different than tests already produced by the literature influencing this capstone. The first series of tests revolves around Johannes Itten's theory about the relationship between fundamental colors and fundamental shapes. His diagram explaining this perspective serves as a foundation for the forms created within

¹ Swirnoff, Lois. *Dimensional Color*. New York, NY: W.W. Norton & Company, 2003.

² Ibid.

this capstone with the goal of taking his theory a step further to produce three-dimensional form. After testing each color combination provided by this diagram, the principles behind the Hue Wheel, or Color Wheel, are combined with Johannes Itten's fundamental shape and color theory to create a second series of tests. The idea that the defined relationship between colors on a Hue wheel in terms of the degrees that separate each color from another will be explored. A numerical set of degrees will be assigned to each color on the hue wheel being referenced for the series and then the difference between the two colors' number of degrees will be used as the degree of rotation between the two colors base fundamental shapes in order to generate a different form for the second series of tests. Color combining is used within series 1 and 2 in order to generate the resulting forms, but the actual mixing of colors according to art theory and science is not explored until series 3. The third series of tests applies color mixing theory to the fundamental shape and color theory from Johannes Itten to create another set of color generated forms.

Overall, this capstone aims to not necessarily be a solution, but provide a catalog of graphical options for forms that could be generated solely from color and the relationships between different colors themselves. In the sake of this capstone, the colors tested and used in the first two series are the primary and secondary colors. Two tertiary colors between each primary and secondary color are incorporated into the third series, bringing the total number of colors used in this capstone to 18.

Background Literature Review

As a research inquiry, this capstone begins with an idea to challenge the use of color in architecture and to perhaps find a more significant role for color in form creation. As stated by the chair member of this capstone and author of *The Visual Biography of Color*, “color is so present in our daily lives that it can often be overlooked”³ and the tests provided in this capstone seek to not overlook color and the inherent spatial qualities of color. The spatial and dimensional qualities of color are often forgotten as a potential mode of form and space creation. However, “when asked to adjust a color or compare similar colors—like Butterscotch and Goldenrod—a designer must revert to vocabulary capable of describing color in more accurate terms. [A designer] uses three dimensions to describe color, much the way that [a designer] uses the dimensions of height, width, and depth to quantitatively describe form and space.”⁴

The overarching questions framed in this capstone are heavily inspired by the theories presented by Lois Swirnonoff in *Dimensional Color*. “Color plays a significant role in the environment. The designer may recognize its expressiveness by using its associative attributes as embellishment or symbol. Rarely is it used to shape space, enhance or diminish volume, or assign position to an object in the visual field.”⁵ In order to narrow the scope of this capstone, the emotive connotations of color are not explored specifically and are only alluded to in the conclusion for continuation purposes. However, these attributes can be applied to the generated forms and possibly even innately associated with the generated forms based on the colors that created them and the emotions associated with each specific color.

Within the introduction, it is stated that Johannes Itten’s theories and principles serve as a foundation for this capstone. Influenced by the Bauhaus School, Johannes Itten wondered, “what shape is color?”⁶ The diagram that is heavily influential for these studies derives from his research of associating color with shape. Itten’s idea that “as in true of the primary colors, red, yellow and blue, the three fundamental shapes - square, triangle, and circle - may be assigned distinct expressive values”⁷ is crucial to the beginning of form generation tests in this capstone. The fundamental shape and color diagram produced by Itten uses the three primary colors and the three basic and fundamental shapes. From here, it is possible to derive a shape for purple, green and orange by mixing the associated shapes as one mixes colors to create the three secondary colors and their corresponding shapes. These six colors and generated shapes are what is used to generate the form generated tests from color in the first two

³ Jacobus, Frank. *The Visual Biography of Color*. San Francisco, CA: ORO Editions, 2017.

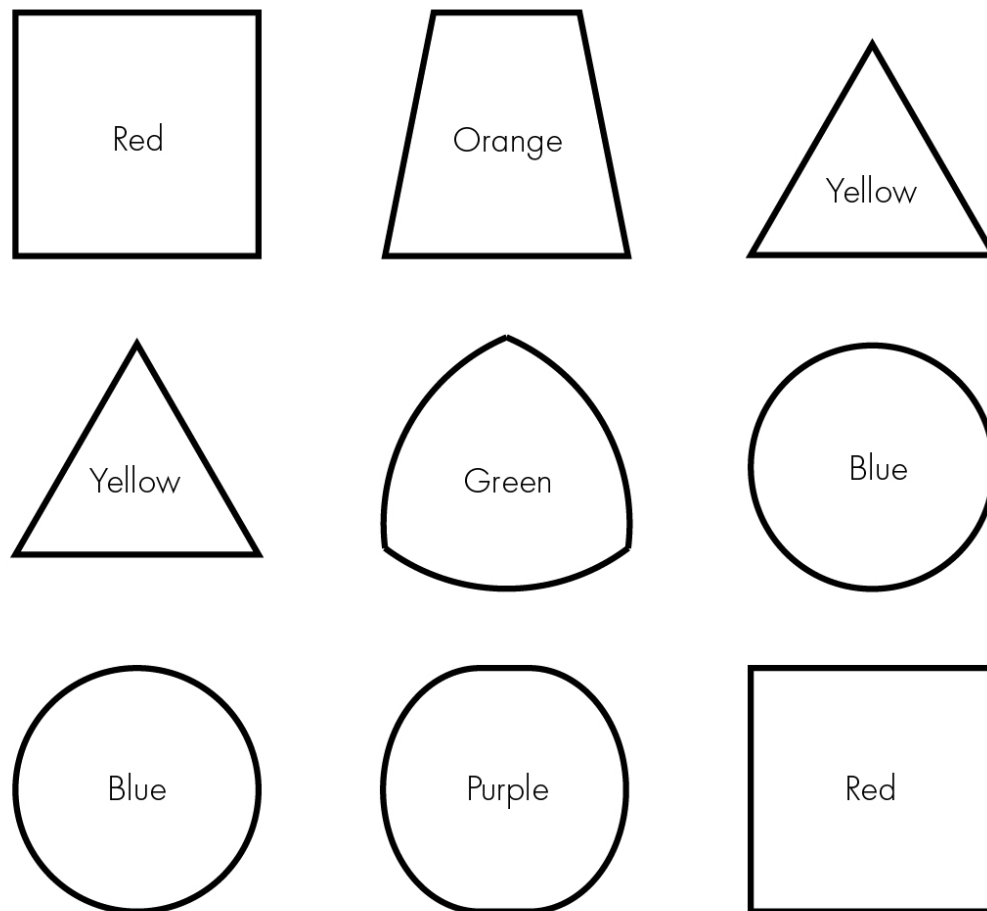
⁴ Doyle, Michael E. *Color Drawing: Design Drawing Skills and Techniques for Architects, Landscape Architects, and Interior Designers*. 2nd ed. Hoboken, NJ: J. Wiley & Sons, 2007.

⁵ Swirnonoff, Lois. *Dimensional Color*. New York, NY: W.W. Norton & Company, 2003.

⁶ Casciato, Maristella, Gary Fox, and Katherine Rochester. “Primary Forms.” *Bauhaus: Building the New Artist*. The Getty Research Institute, Los Angeles, June 10, 2019. https://www.getty.edu/research/exhibitions_events/exhibitions/bauhaus/new_artist/form_color/form/.

⁷ Itten, Johannes, and Faber Birren. *The Elements of Color*. John Wiley & Sons, 2003.

series of this capstone. Figure 0 below is the Fundamental Shape and Color diagram by Johannes Itten, reproduced digitally for this capstone.



⁸ Fig. 0. Association of Colors with Corresponding Shapes

Furthermore, the second series of studies and tests within this capstone combine Johannes Itten's fundamental color and shape relational principles with that of the relationship's colors have with each other within the Color Wheel or Hue Wheel condition. For clarity, the *color wheel* is often the name given to the *hue wheel* which is the more proper way to refer to this specific color aspect. While a hue is only one of the possible three dimensions that create a specific color, the use of the degree of separation between each color is used as the testing dimension to produce the second series of tests within this capstone and is dependent on the hue of each color. These tests are achieved through the use of Hue Wheel principles. In the first series and the second series, the two or three shapes being used are lofted together to create the resulting form.

⁸ Itten, Johannes, and Faber Birren. *The Elements of Color*. John Wiley & Sons, 2003.

There are many different types of Hue Wheels that have been created by artists and theorists. Shown below are three examples of the diagrammatic relationship of different hues constructing a wheel form. From these examples, a Color Wheel was created specifically for this capstone. The created *Hue Wheel* will be included with the second series of tests in this capstone and was created in order to have control over the outcome of the forms created. Figure 3 includes the degrees associated with each color in relationship to their circular relationship and placement, which is how the *Hue Wheel* created for this capstone was designed.



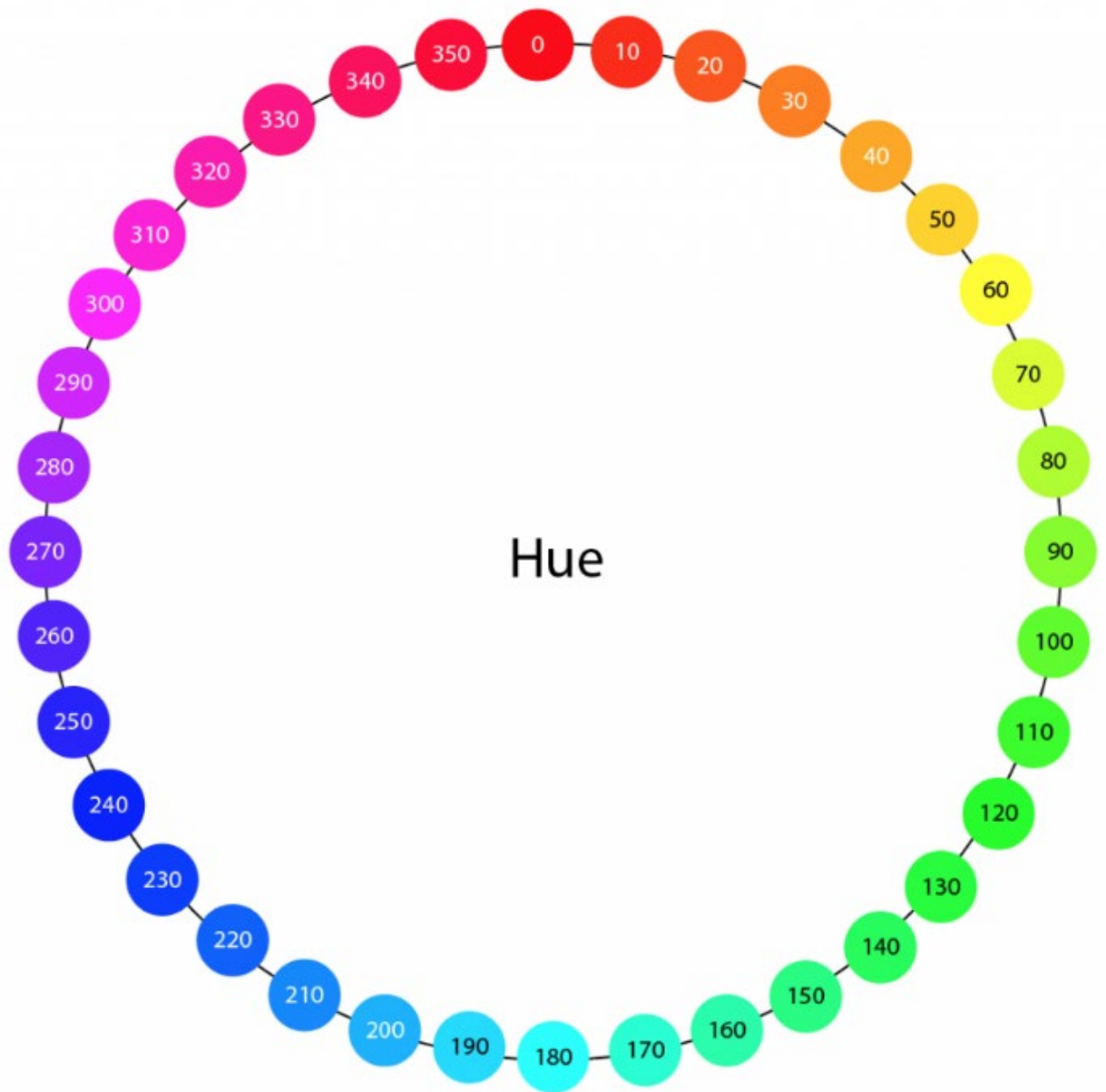
⁹ Fig. 1. Hue Wheel



¹⁰ Fig. 2. Itten's Color Wheel

⁹ Fig. 2. Doyle, Michael E. *Color Drawing: Design Drawing Skills and Techniques for Architects, Landscape Architects, and Interior Designers*. 2nd ed. Hoboken, NJ: J. Wiley & Sons, 2007.

¹⁰ Fig. 3. Grimley, Chris, and Mimi Love. "Chapter 9: Color." Essay. In *Color, Space, and Style: All the Details Interior Designers Need to Know but Can Never Find*, 136–51. Beverly, MA: Rockport, 2007.



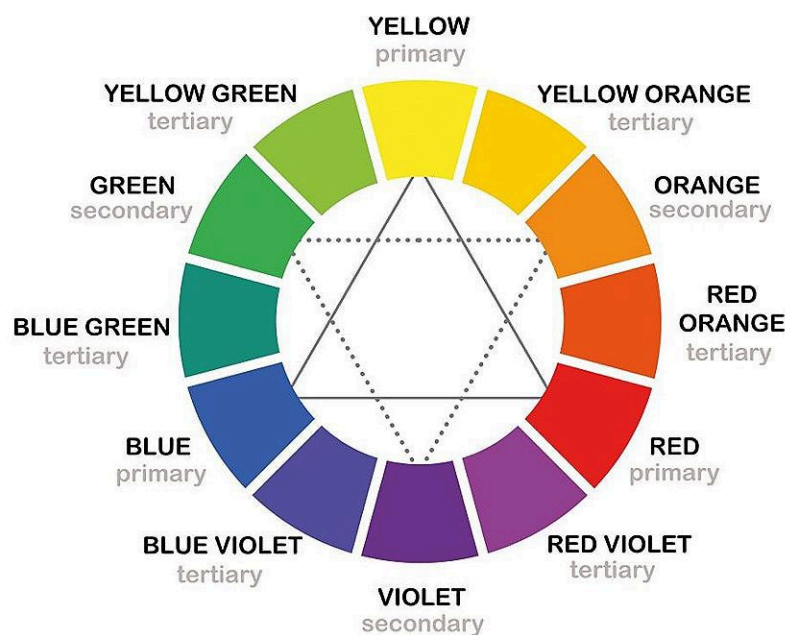
¹¹ Fig. 3. The Hue Colour Wheel

Nonetheless, it is important to understand how the Hue Wheel came to be. “The term hue denotes the name of a color, such as ‘red’, ‘yellow’ or blue-green.’ When full-spectrum light, such as sunlight, is fractured into a rainbow by a cloud of water vapor or a prism, what you are seeing are the component colors that make up the light. You will see these colors blend or grade from one into another. Because the colors on either end of the rainbow are also related to each other, all the colors taken together form a

¹¹ Fig. 1. The Hue Colour Wheel. n.d. <https://blog.joycedigital.com/2018/11/09/mathematics-in-colour/>.

circular relationship.”¹² The relationships, geometry, and degree variation that concoct the Hue Wheel makes it a viable tool for designers to use in space creation. In particular, the difference between the degrees of colors will be used in specific form generation tests that will be explored in series 2 of this capstone.

The third series of tests expands Johannes Itten’s Color and Shape diagram to include more hues and thus more shapes. This series of tests also introduces the concept of tertiary colors. Figure 4 shows the relationships of primary, secondary, and tertiary colors.



¹³ Fig. 4. Triadic Color Diagram

For this third series, two tertiary colors were created between each secondary and primary color relationship. Figure 5 was created to explain the foundation for generating form in the third series and displays the shape and color parameters of this series. Extrusions are made using the profile of each of the shapes to represent their corresponding hue. Then, the color theory of mixing two colors to produce another is applied. The mixing of colors in this series begins with the primary colors creating a

¹² Doyle, Michael E. *Color Drawing: Design Drawing Skills and Techniques for Architects, Landscape Architects, and Interior Designers*. 2nd ed. Hoboken, NJ: J. Wiley & Sons, 2007.

¹³ “Mixing Colors - A Detailed Guide on Mixing Paint Colors.” *artincontext.org*. Artinontext, September 16, 2021. <https://artincontext.org/mixing-colors/>.

secondary color. From here, analogous colors in groups of 3 and 5 are tested within each primary color mixing range. Figure 5 has 3 rows, with the range of colors enabled from this capstone between each of the primary color mixing combinations.

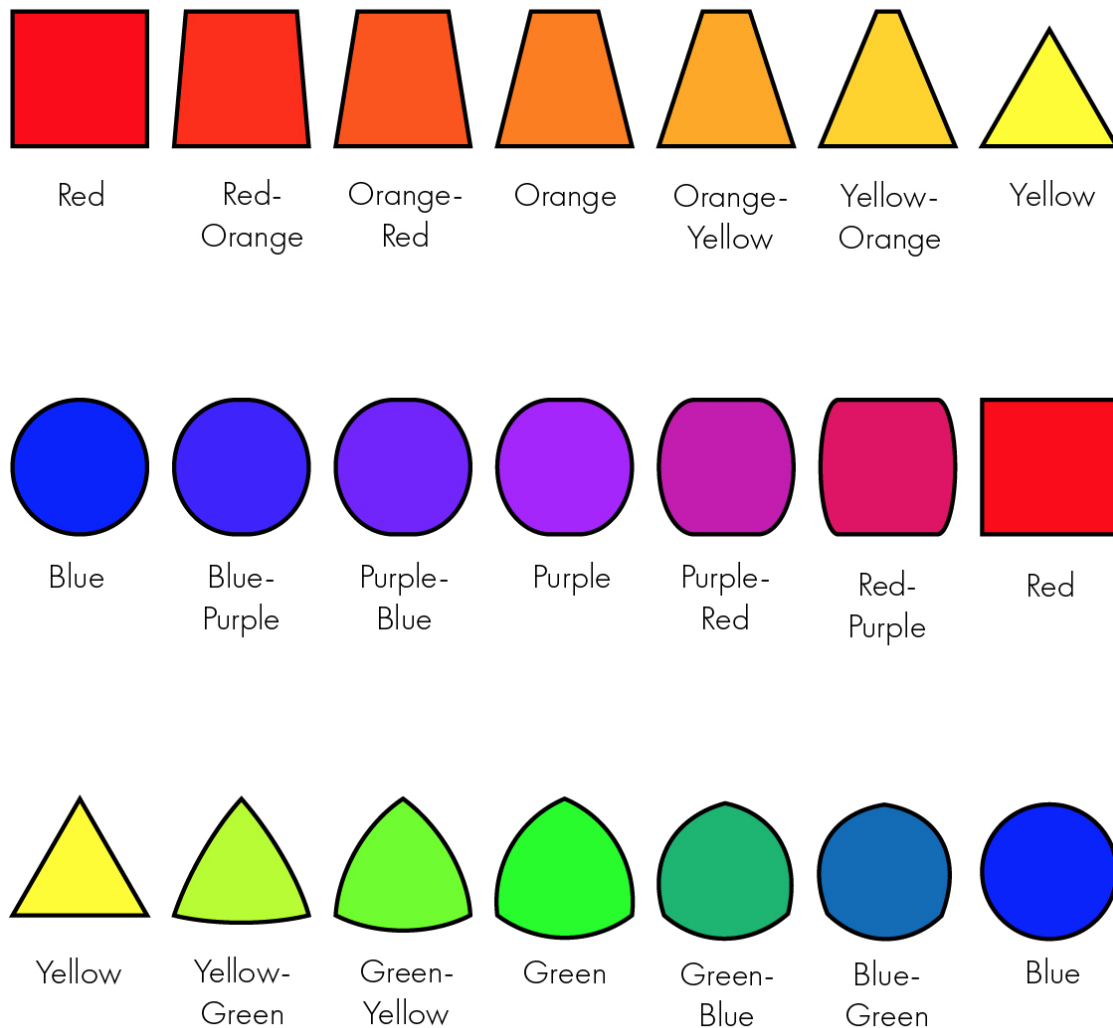


Fig. 5. Different Shapes Formed by Expanding Itten's Color Theory

The result of the mixing of two colors is the color they produce. When the two colors being mixed are added, the overlap of the two forms is removed and the void becomes that color. Rather than leaving the overlap of the colors being mixed as a solid, a void form was chosen to show the result of the mixing better visually.

There are many other colors and color combinations that exist. However, in order to create parameters and precision for this capstone, the color mixing that occurs uses colors for both color mixing and the form-color results solely from the hues created in Figure 5. Using Figure 5, when mixing two primary colors together, if equal parts of each primary color was used in the mixing, the result is the secondary color between them. The two colors being mixed are placed with the overlapping face overlapping in a way that is as equal as possible for both colors. However, non-equal amounts were also tested to generate the tertiary colors between the primary and secondary colors and to utilize all of the color hues created in Figure 5. In the instance of red and yellow being mixed, $\frac{1}{2}$ of red and $\frac{1}{2}$ of yellow mixes together to produce orange. Between orange and red shown in Figure 5 is the two colors orange-red and red-orange. Between orange and yellow shown in Figure 5 is the two colors orange-yellow and yellow-orange. The color/hue named first alludes to the color/hue that the generated color/hue is closer to in its specific row. Following this logic, if the overlap between red and yellow was $\frac{2}{5}$ red and $\frac{3}{5}$ yellow, the result would produce orange-yellow since the resultant of the mixing would include more yellow and thus be closer to yellow in that mixing row. If the overlap between red and yellow was $\frac{1}{5}$ red and $\frac{4}{5}$ yellow, the resultant would be yellow-orange. The alternative is also tested where $\frac{4}{5}$ red and $\frac{1}{5}$ yellow are combined to produce red-orange, and $\frac{3}{5}$ red and $\frac{2}{5}$ yellow to produce orange-red. Similar sets of mixings occur for the mixing of the primary colors blue and red and blue and yellow.

Project Development Plan

Week 1:

theory collection and research

Week 2:

theory collection and research

Week 3:

using collected theory and research to test color to form creation options

Week 4:

using collected theory and research to test color to form creation options

Week 5:

the use of Itten's fundamental shape and color diagram is decided upon as a foundation for color-form generations, series 1 and 2 are hypothesized and parameters are established

Week 6:

modeling series 1 and 2 of tests in rhino

Week 7:

modeling series 1 and 2 of tests in rhino

Week 8:

converting series 1 and 2 models into 2D graphics in Adobe Illustrator

Week 9:

converting series 1 and 2 models into 2D graphics in Adobe Illustrator

Week 10:

working on capstone paper and layout

Week 11:

working on capstone paper and layout, series 3 is hypothesized and parameters are established

Week 12:

modeling series 3 of tests in rhino

Week 13:

modeling series 3 of tests in rhino

Week 14:

converting series 3 models into renderings in Enscape

Week 15:

finalizing research paper and presentation

Process Description

The Project Tools utilized for this project are all digital. For the 3-D modeling component, Rhinoceros 6.0 (Rhino) was used in the process of generating the tested forms. For the graphic production component, Adobe Illustrator was used to create and refine the generated lines from Rhinoceros 6.0 (Rhino) for series 1 and 2 into clean and legible graphics. The rendering software, Enscape, was used in series 3 to create renderings of the generated forms.

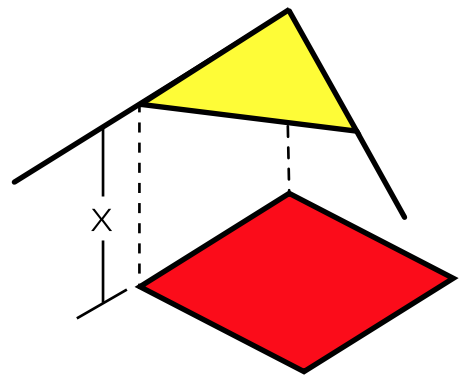
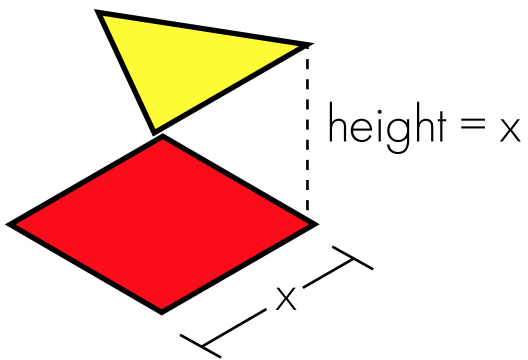
The overall process of this capstone included generating forms from color based on the color and shape theories of Johannes Itten for series 1. Series 2 expands on Itten's theories by incorporating the relationships within the color/hue wheel. Series 3 incorporates Itten's theories and the color theory of mixing 2 different colors to create a third color as a result. The forms for all of the series were created through 3-D modeling in Rhinoceros 6.0 (Rhino). The forms for series 1 and 2 were then exported as 2-D lines to Adobe Illustrator where they were revised, and line weighted in order to produce the series of graphics needed to show the results of this capstone. The forms for series 3 were rendered in Enscape and then incorporated as images into the final layout.

Results and Outcomes:

Series 1:

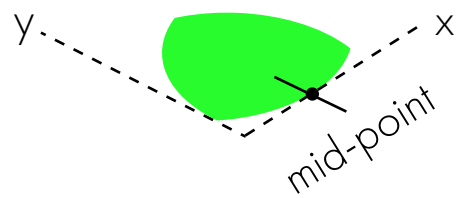
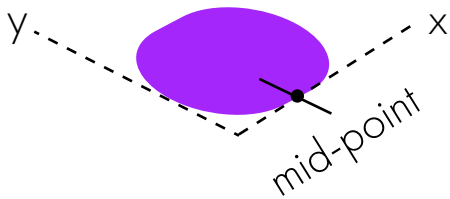
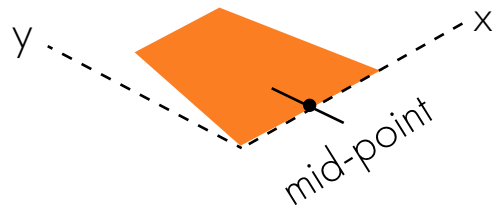
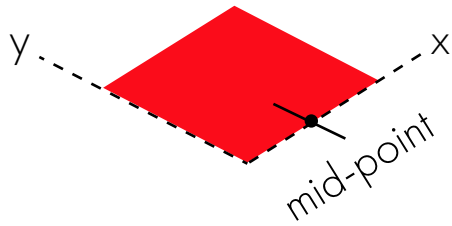
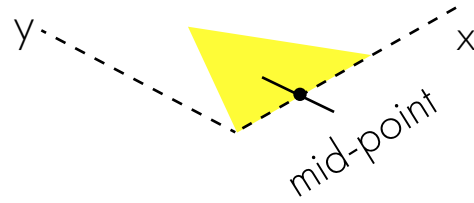
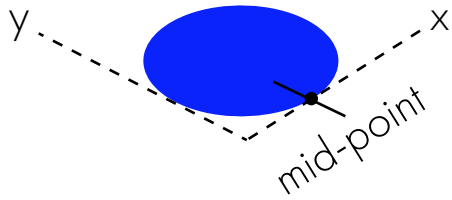
Using Johannes Itten's Fundamental Color and Shape Theory

Form Parameters



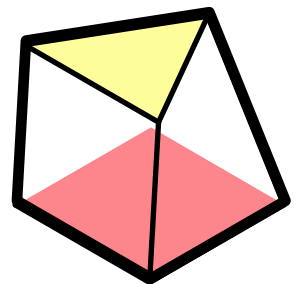
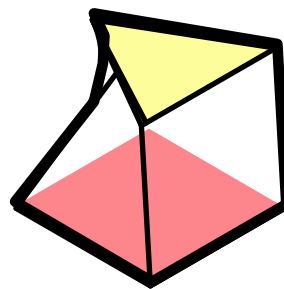
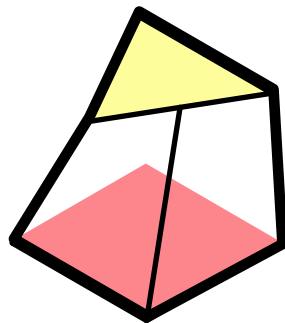
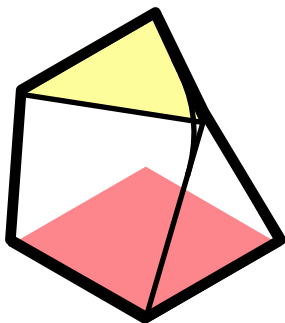
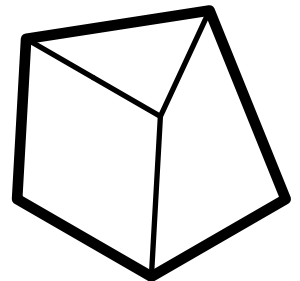
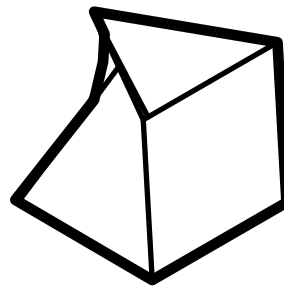
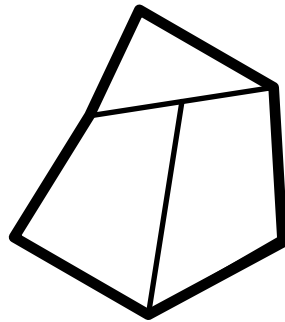
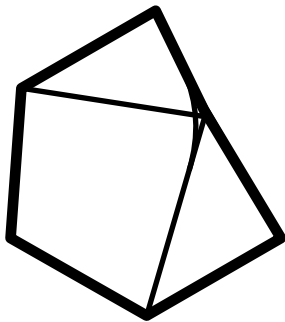
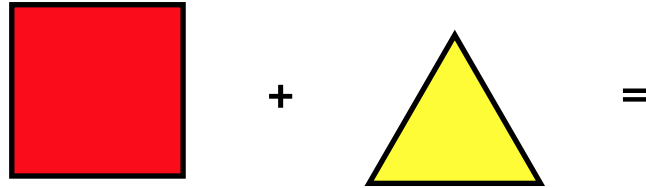
The size of each form is based on decided upon deliverables in order to achieve consistency in the tests. The square is 5 units by 5 units, the triangle has a bottom edge equaling 5 units and fits within the square, and the circle has a diameter of 5 units. All other shapes evolve directly from these parameters. The height of the volumes has a direct relationship with the established 5 units of measurement.

Form Parameters, Shape Alignment

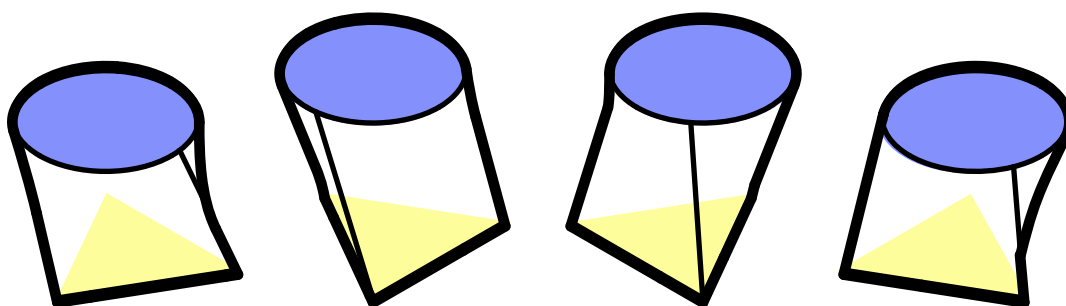
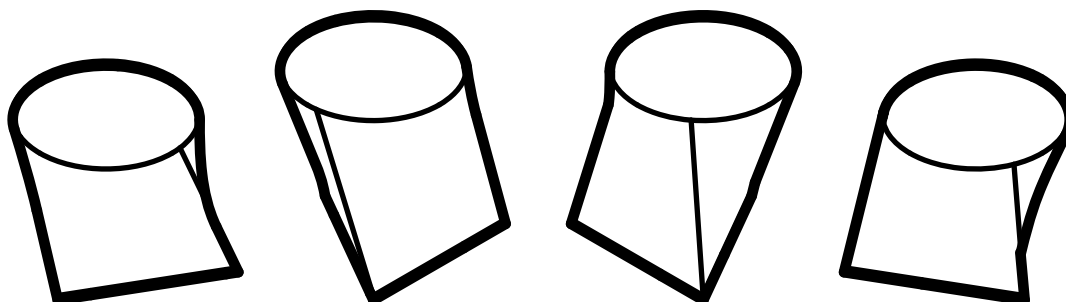
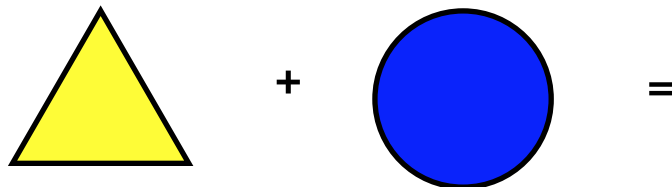


For Series 1 and 2. Rotations happen along the x-axis and shapes were aligned vertically by midpoint.

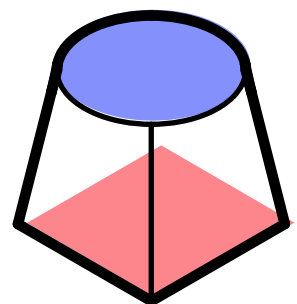
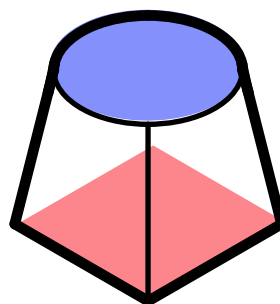
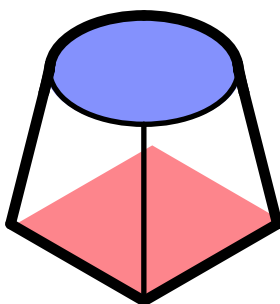
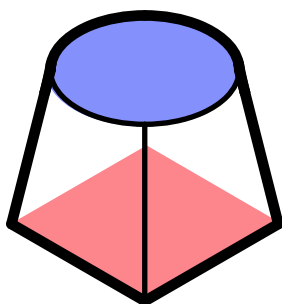
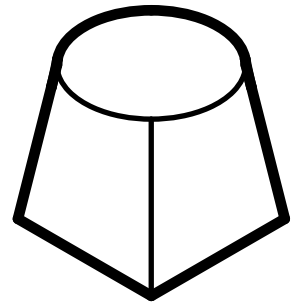
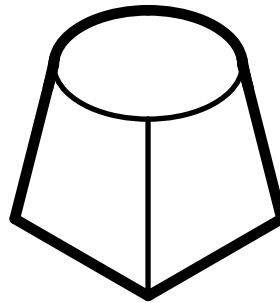
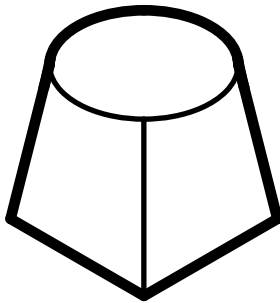
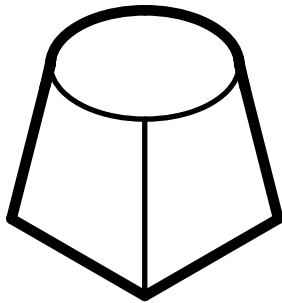
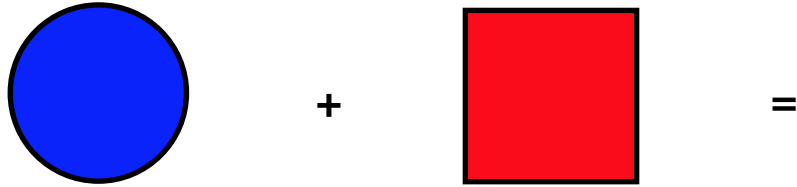
Colors Generating Form: Red and Yellow



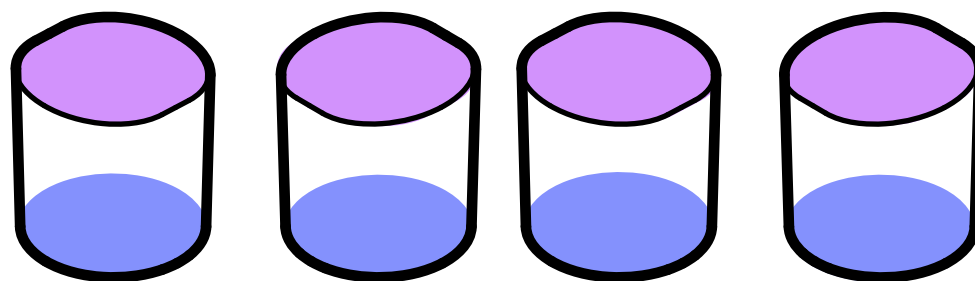
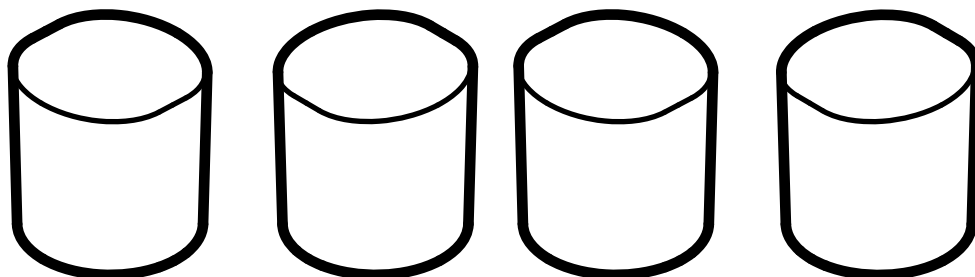
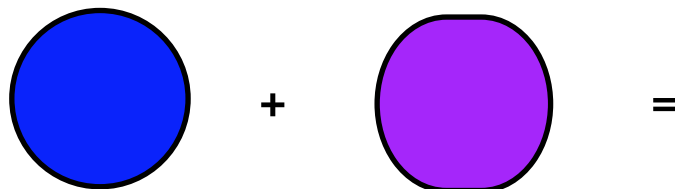
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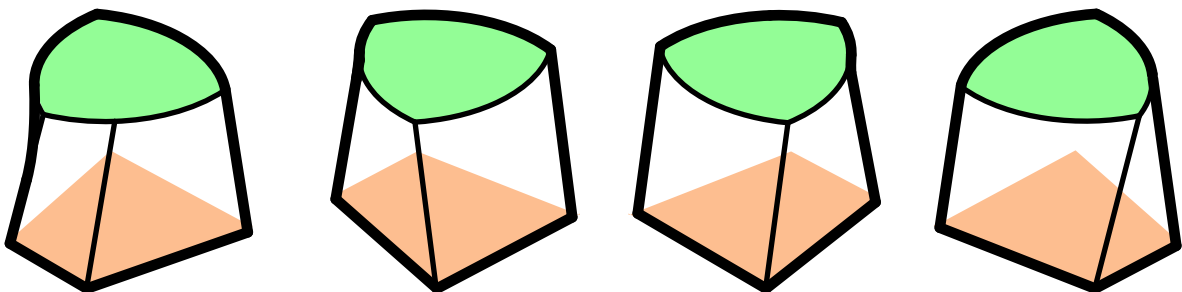
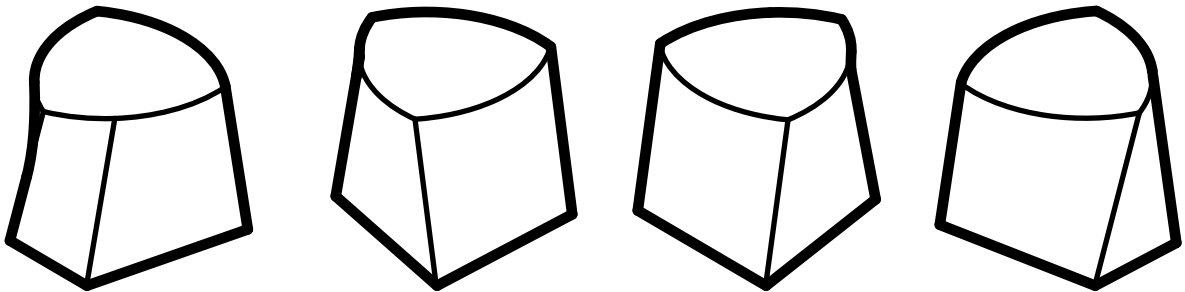
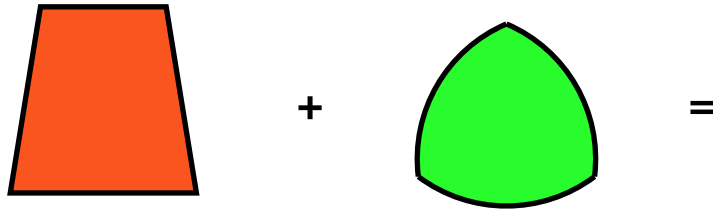
Colors Generating Form: Blue and Red



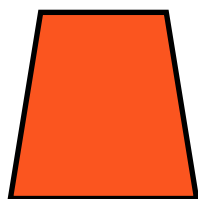
Colors Generating Form: Blue and Purple



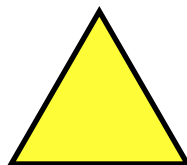
Colors Generating Form: Orange and Green



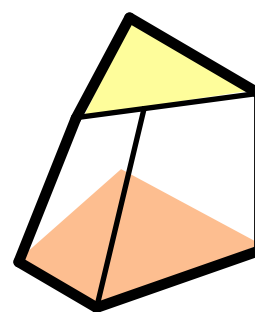
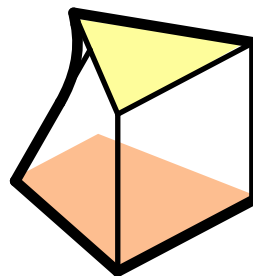
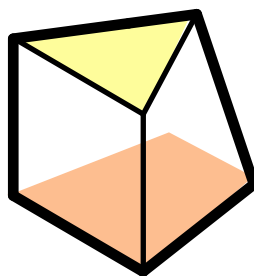
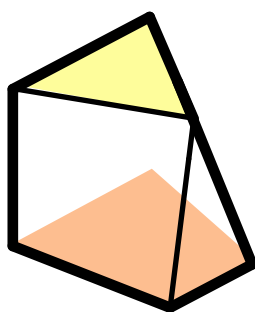
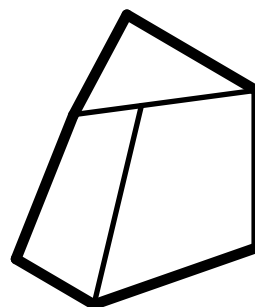
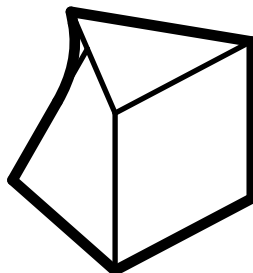
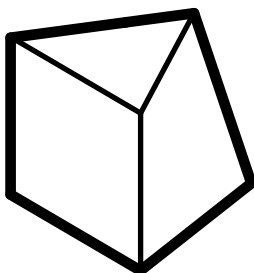
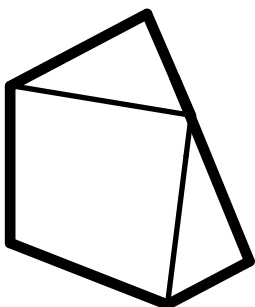
Colors Generating Form: Orange and Yellow



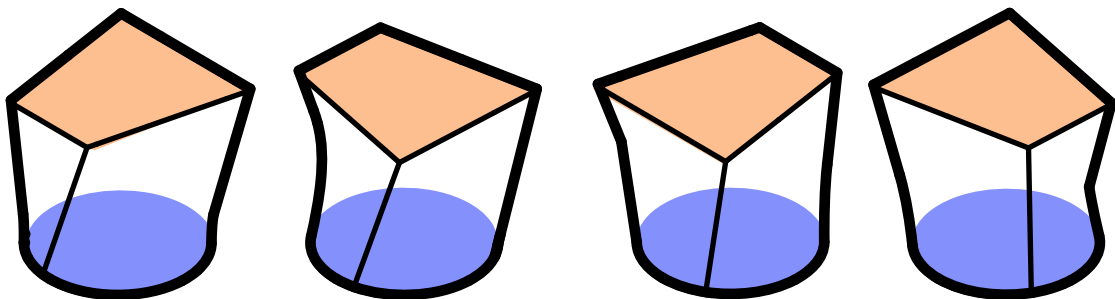
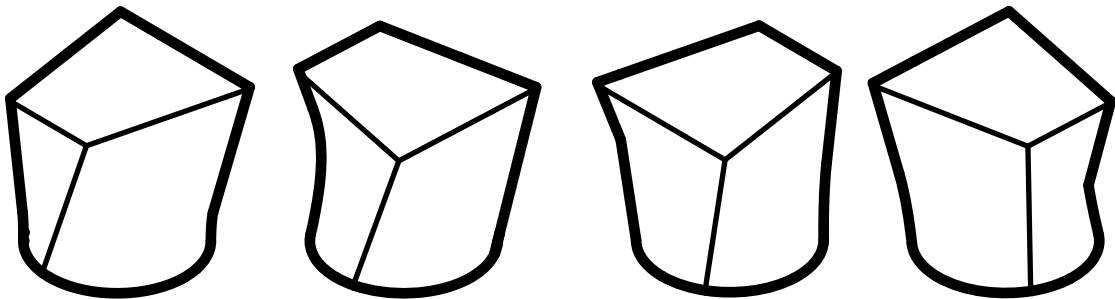
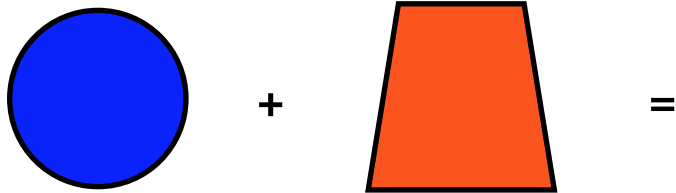
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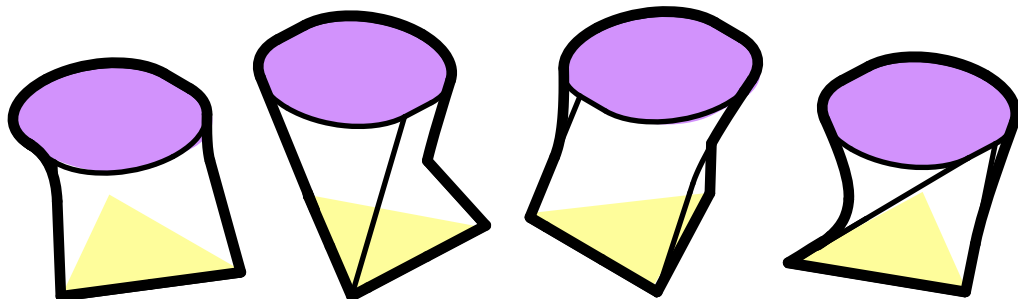
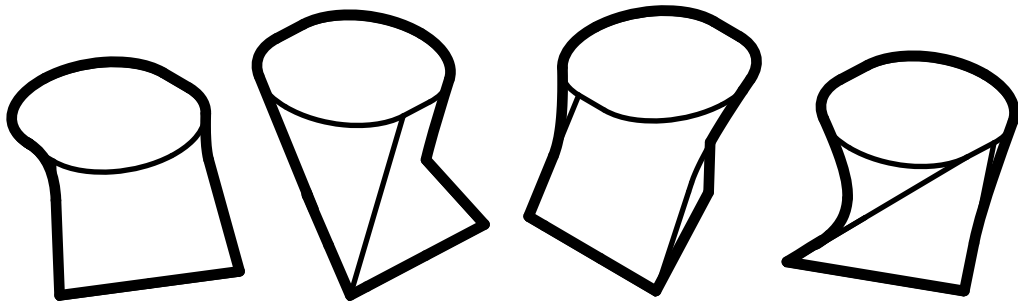
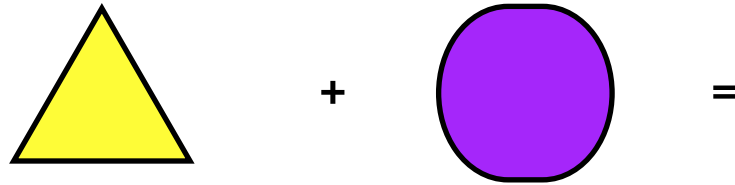
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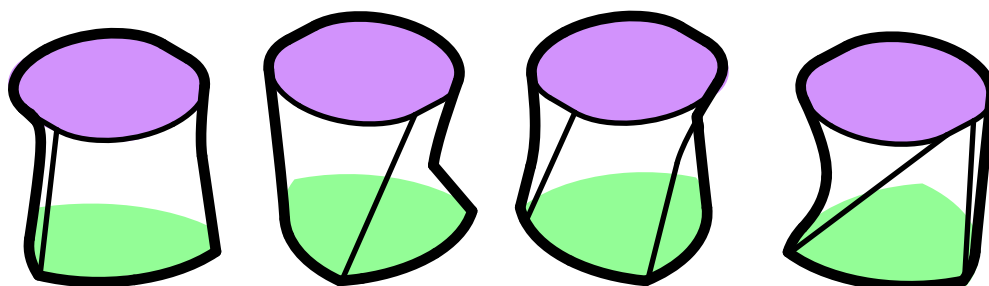
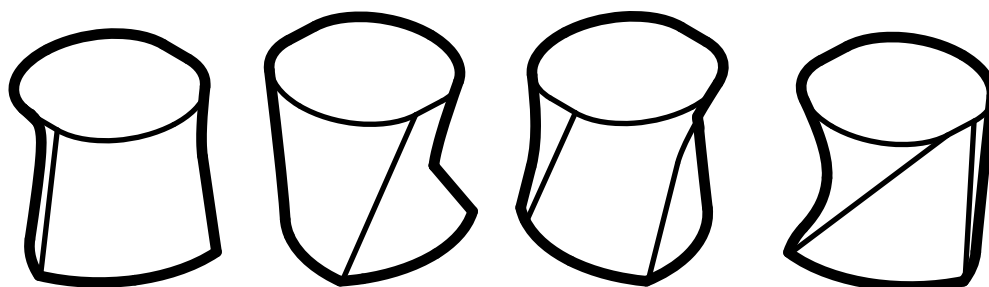
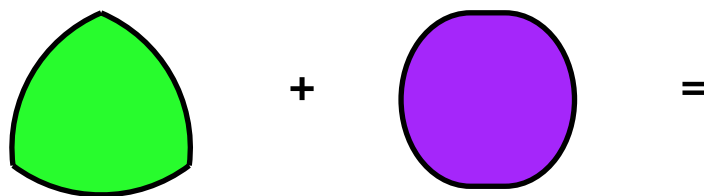
Colors Generating Form: Blue and Orange



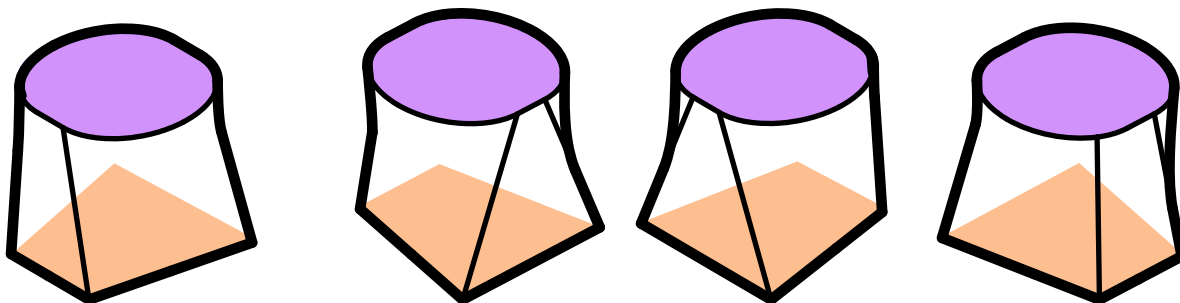
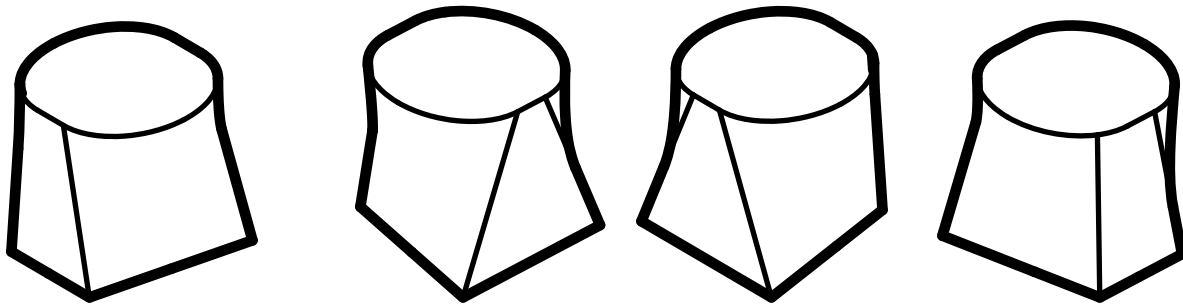
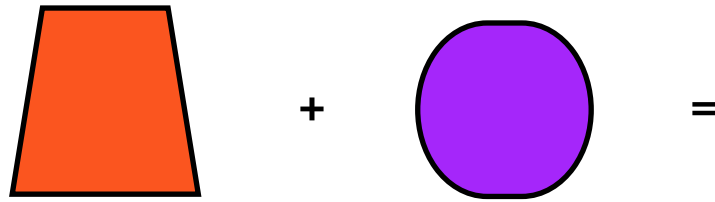
Colors Generating Form: Yellow and Purple



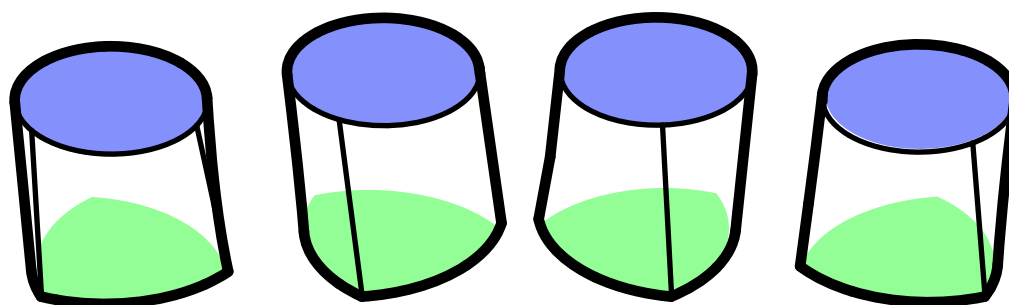
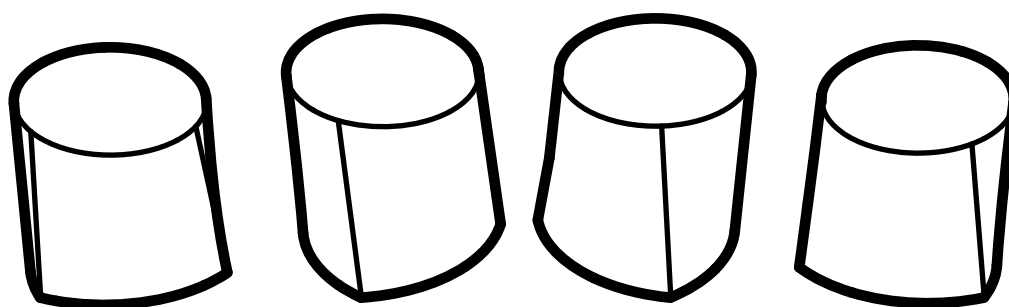
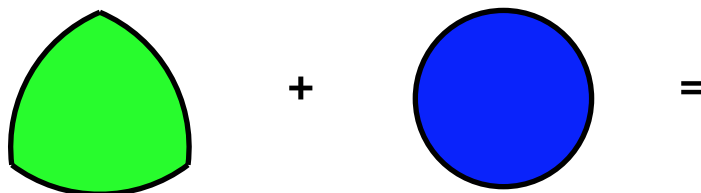
Colors Generating Form: Green and Purple



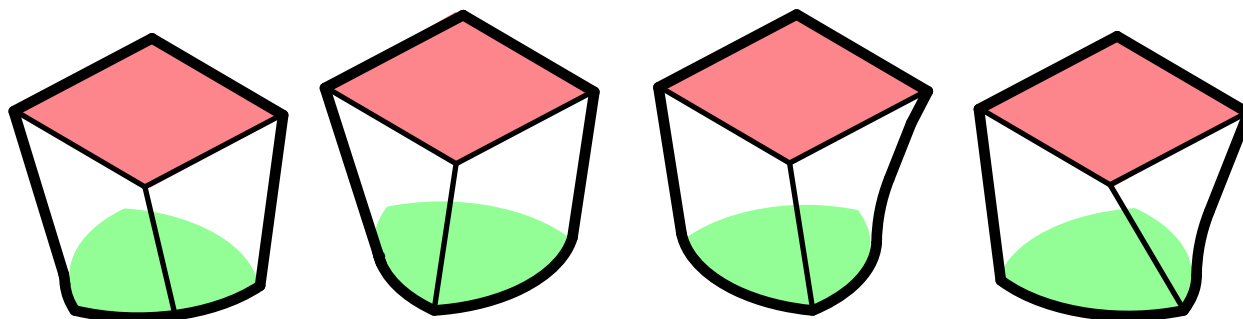
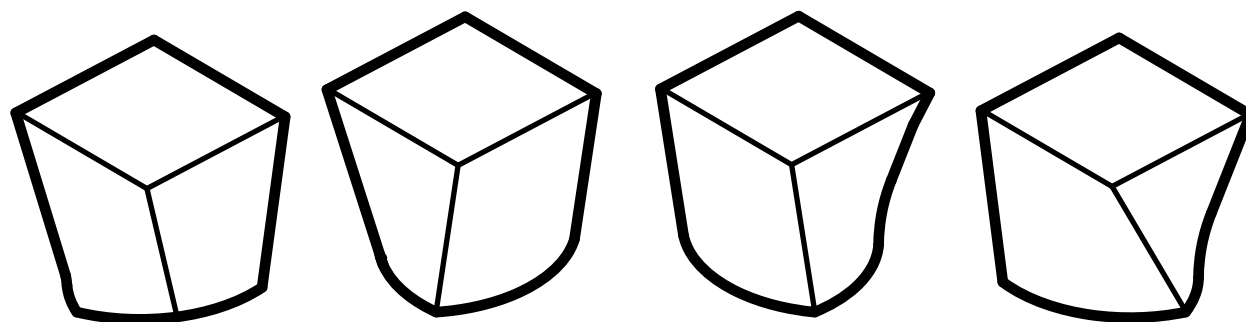
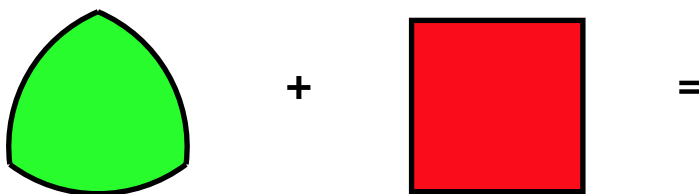
Colors Generating Form: Orange and Purple



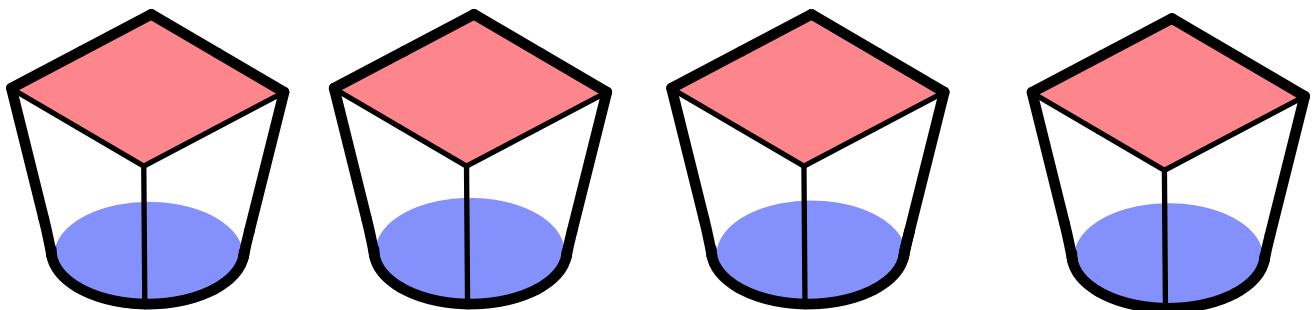
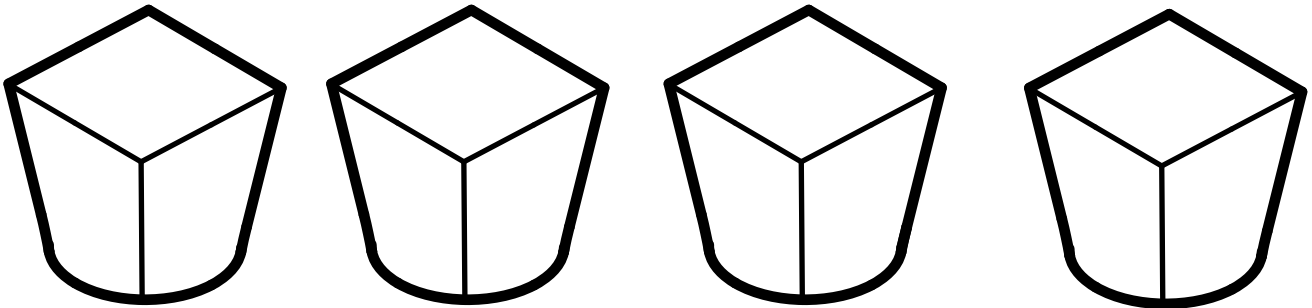
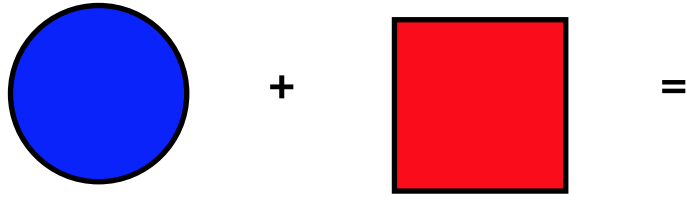
Colors Generating Form: Green and Blue



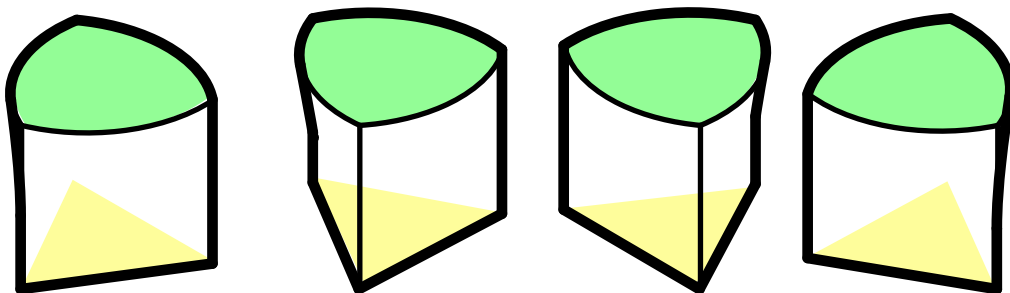
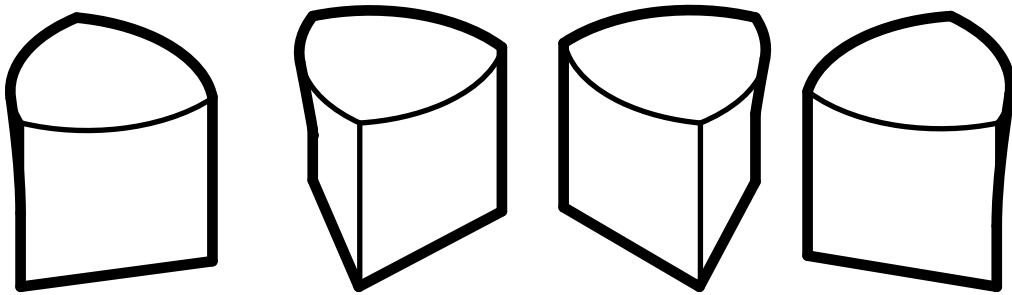
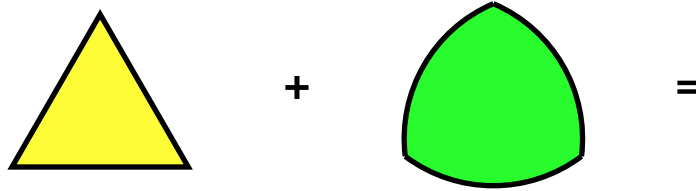
Colors Generating Form: Green and Red



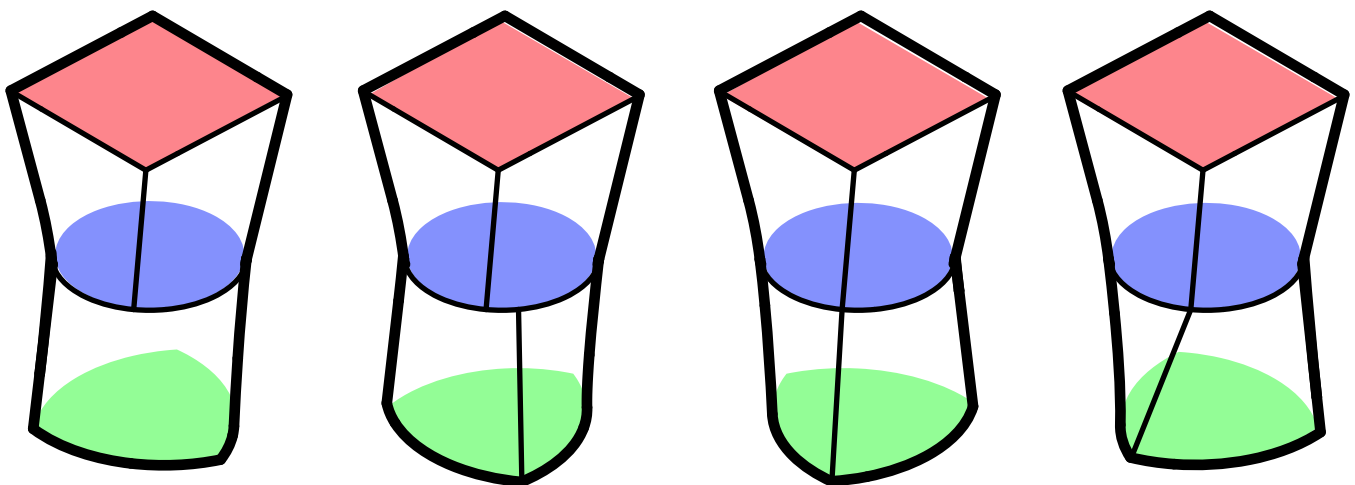
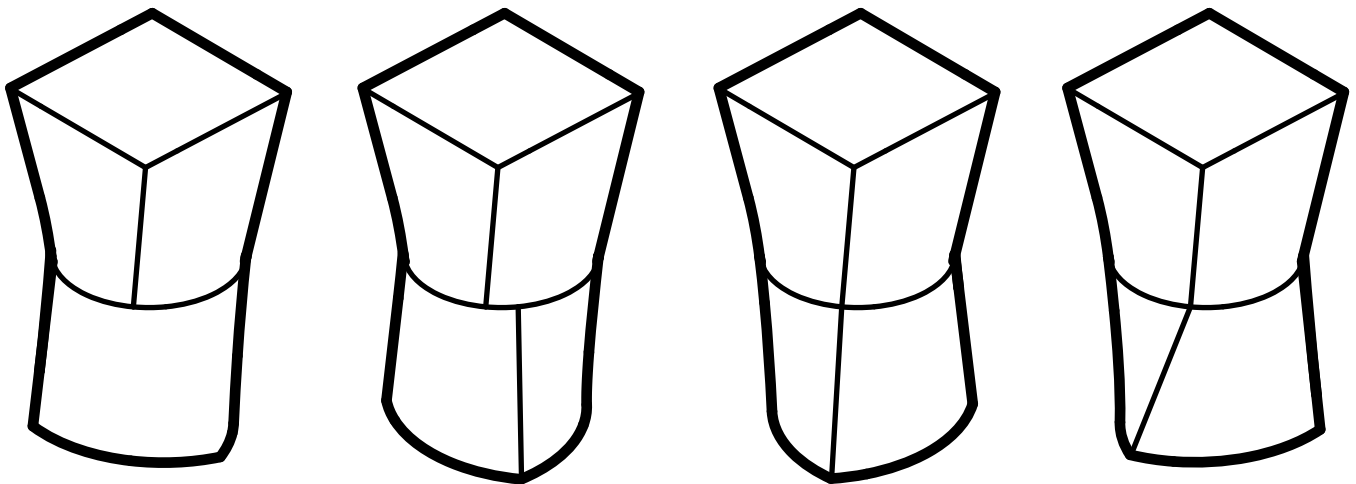
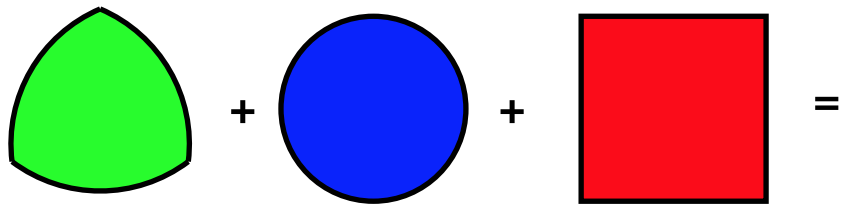
Colors Generating Form: Blue and Red



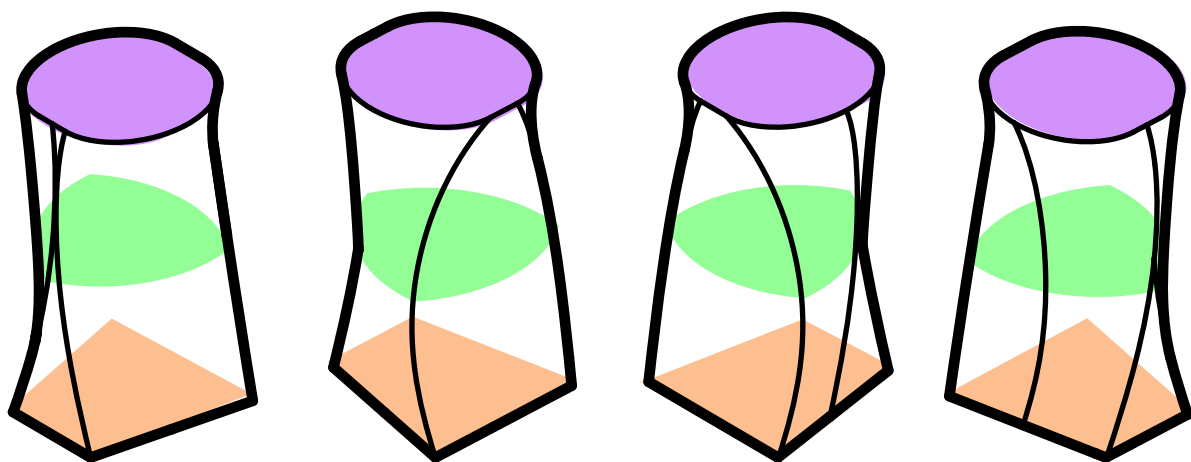
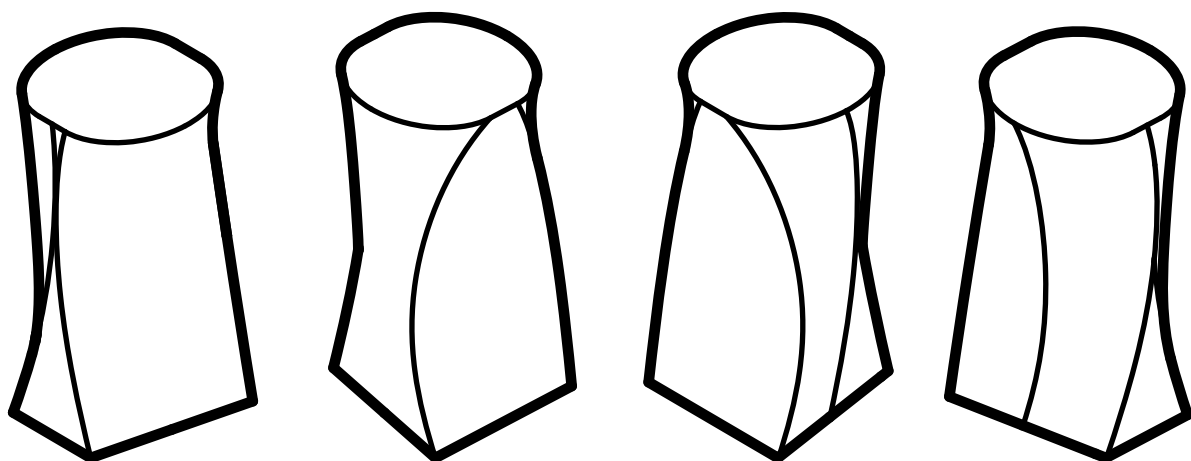
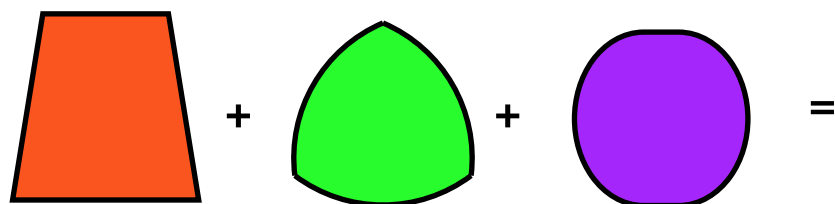
Colors Generating Form: Yellow and Green



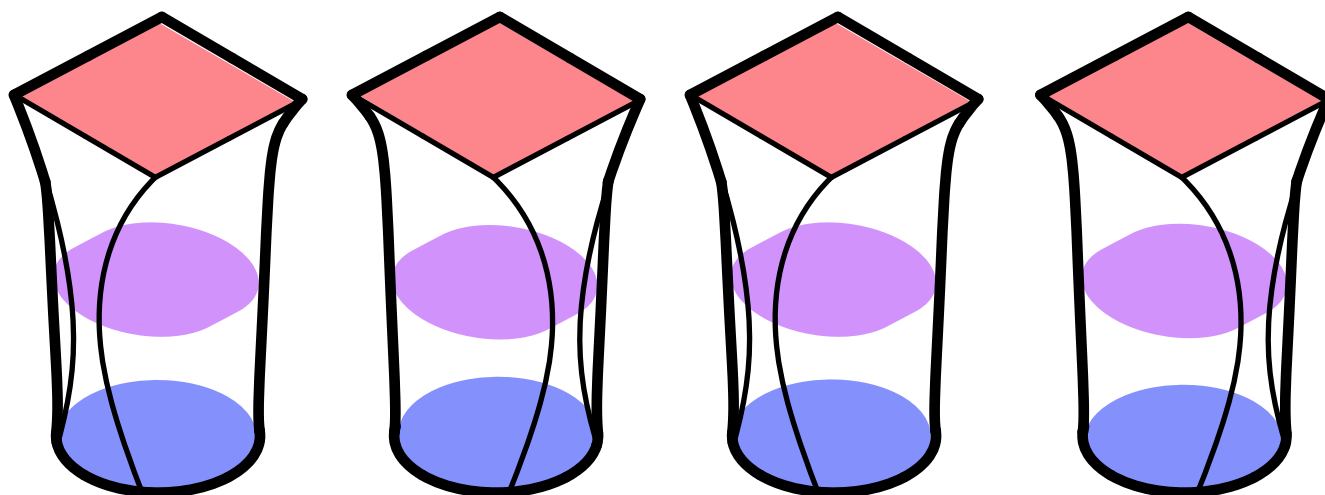
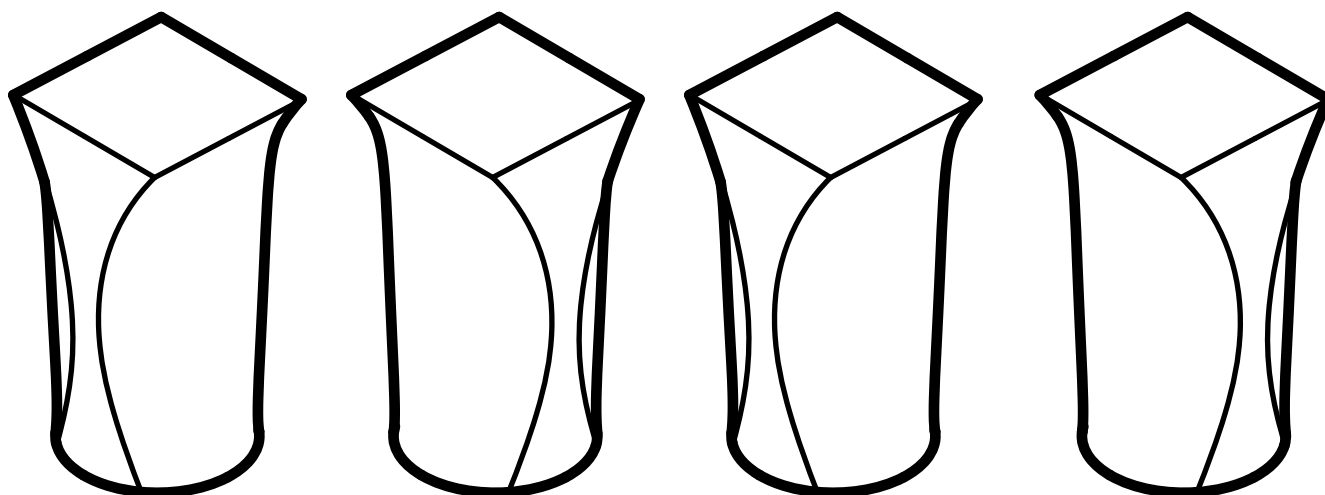
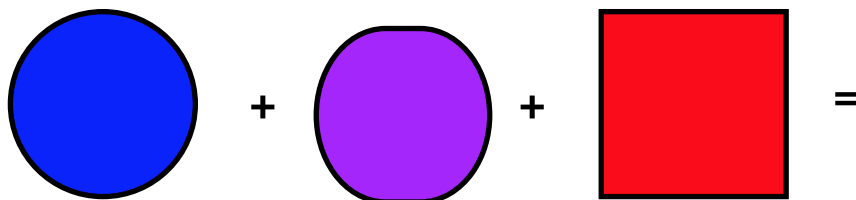
Colors Generating Form: Green and Blue and Red



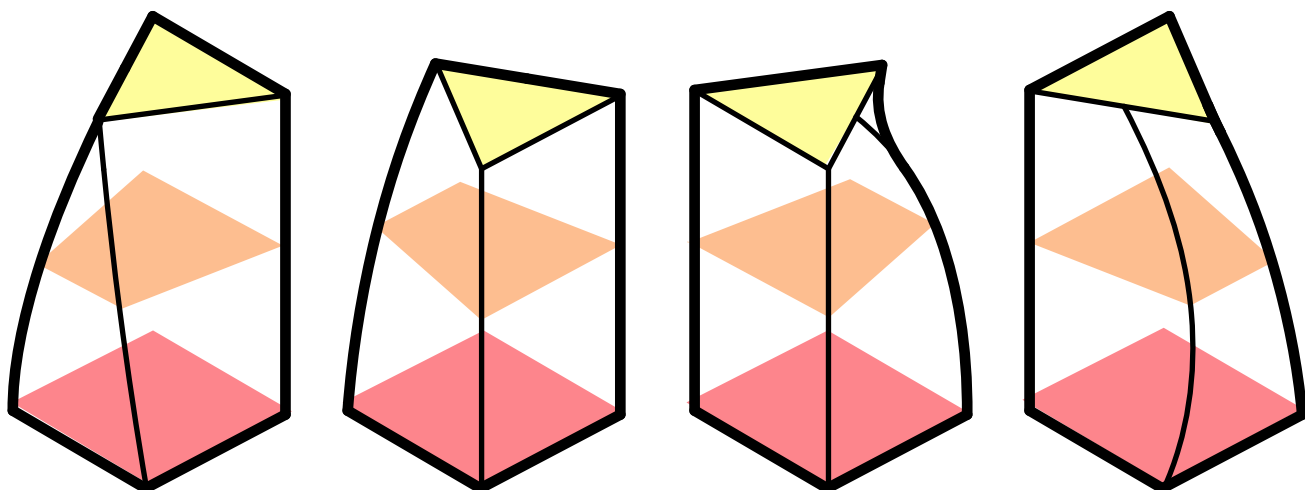
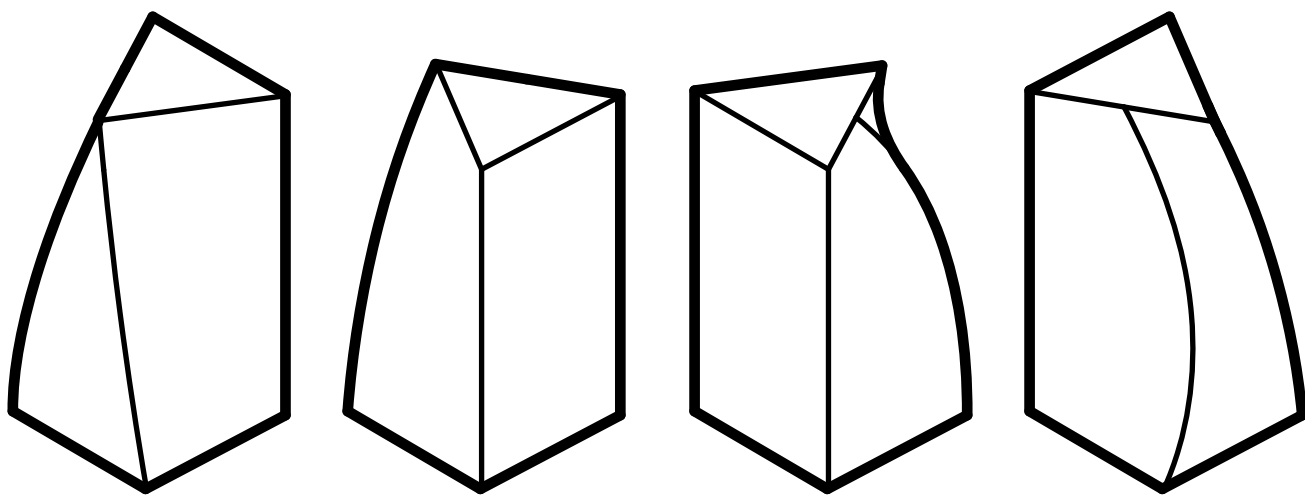
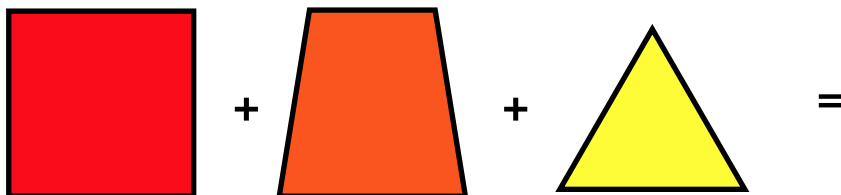
Colors Generating Form: Orange and Green and Purple



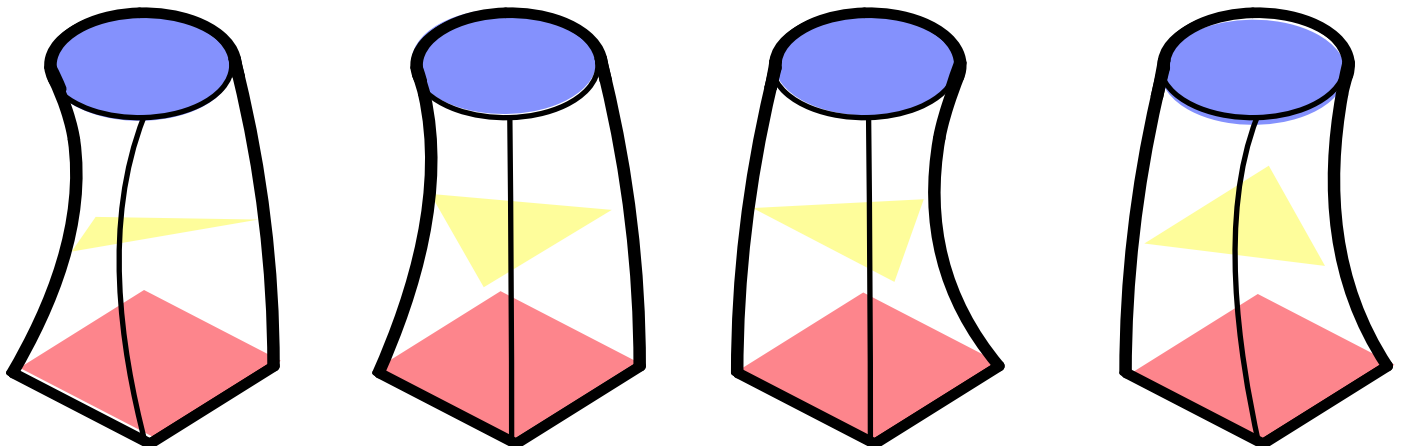
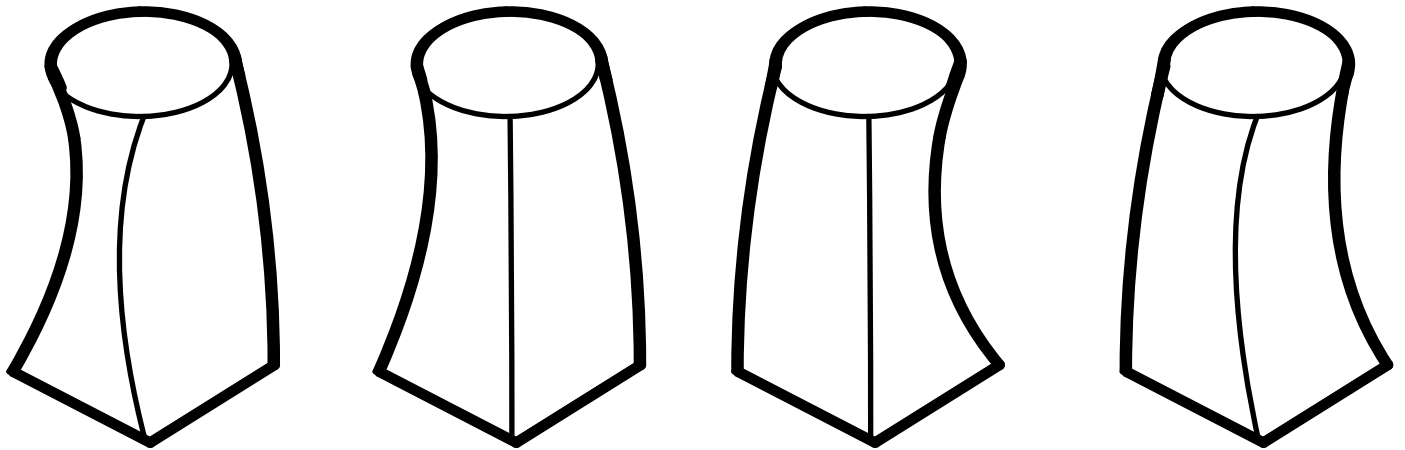
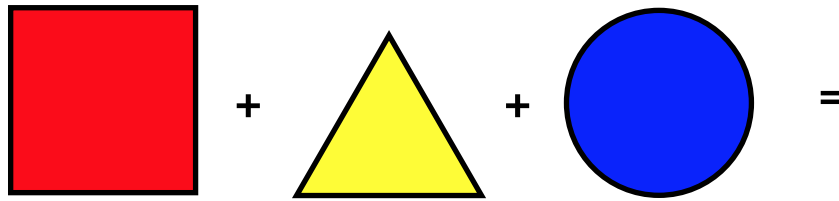
Colors Generating Form: Blue and Purple and Red



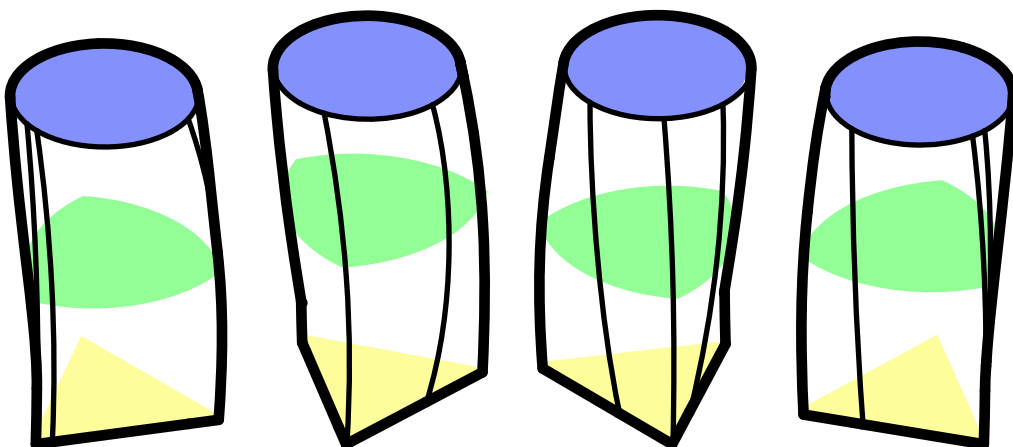
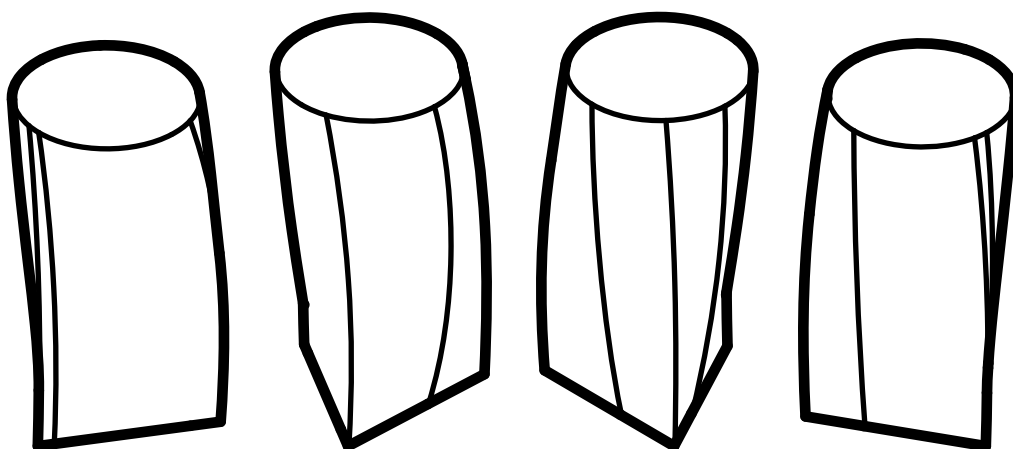
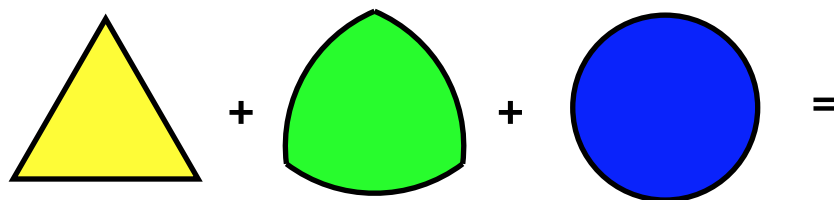
Colors Generating Form: Red and Orange and Yellow



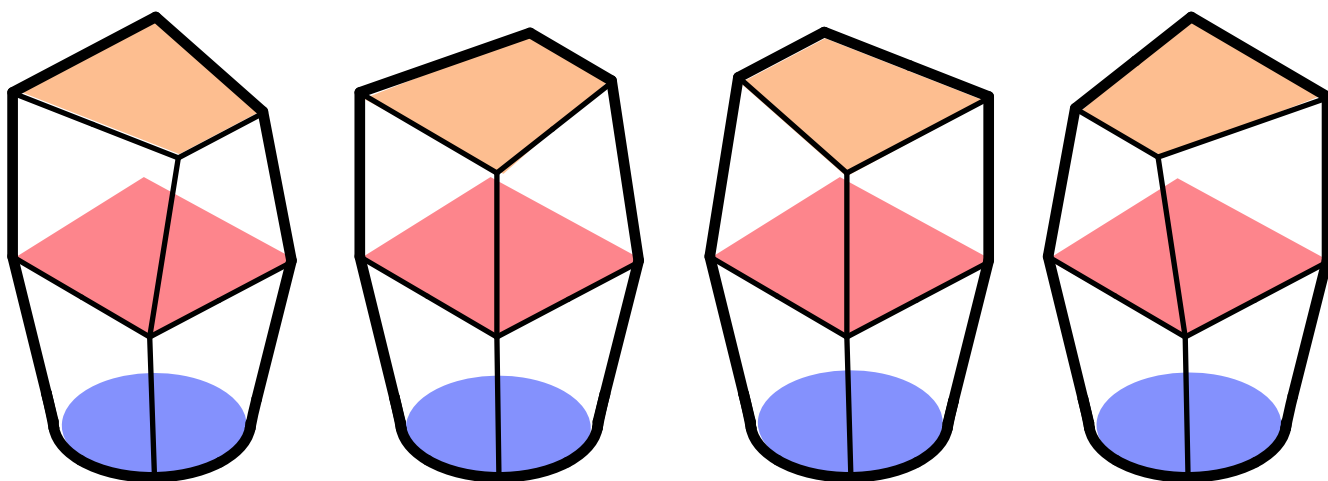
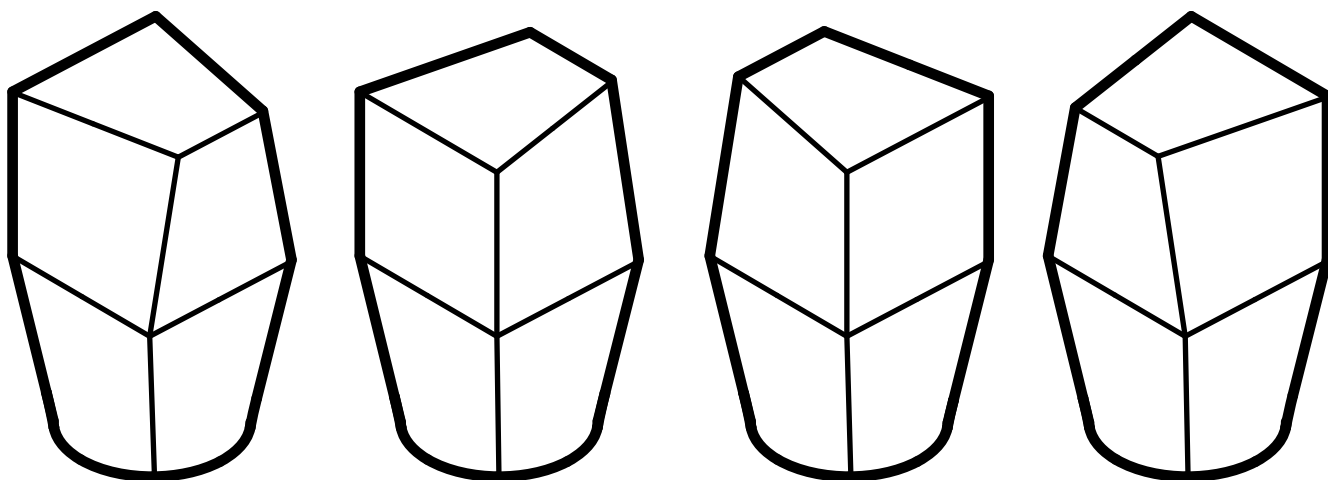
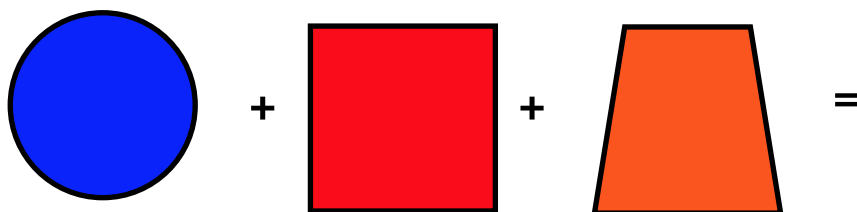
Colors Generating Form: Red and Yellow and Blue



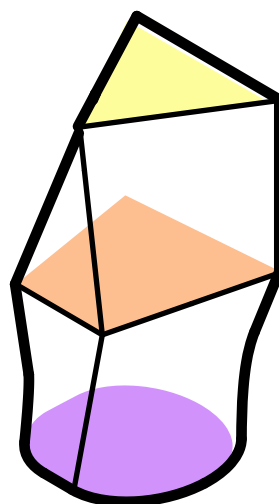
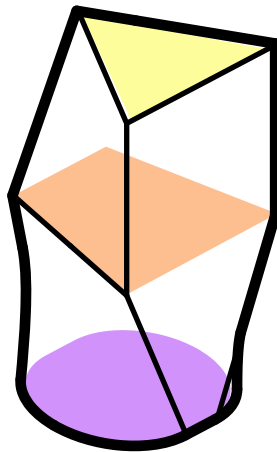
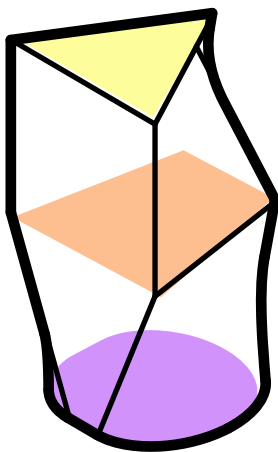
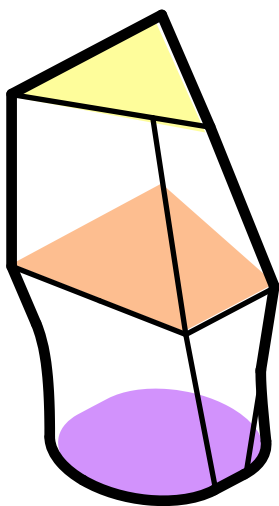
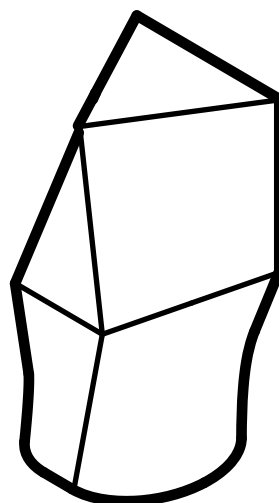
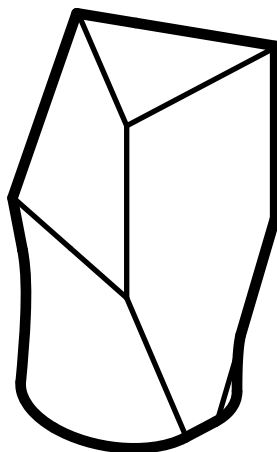
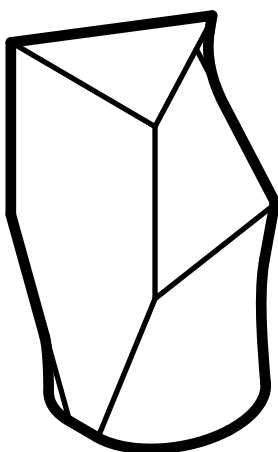
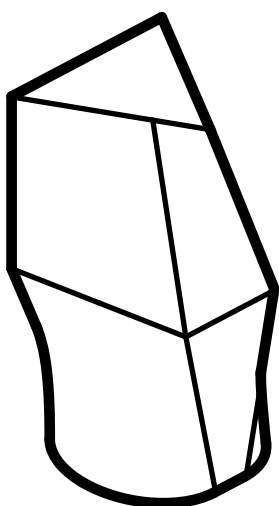
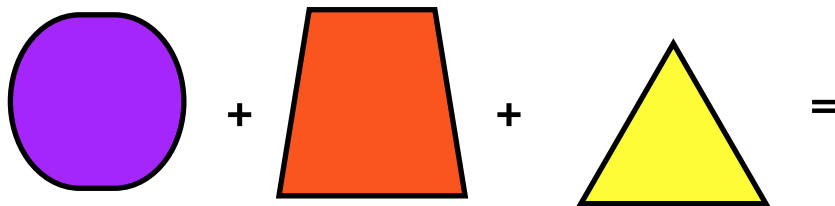
Colors Generating Form: Yellow and Green and Blue



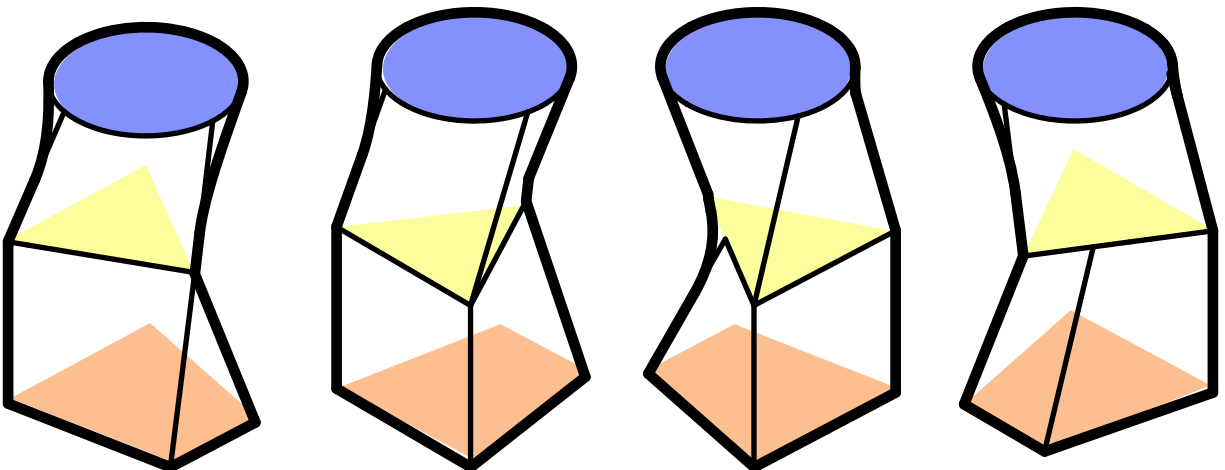
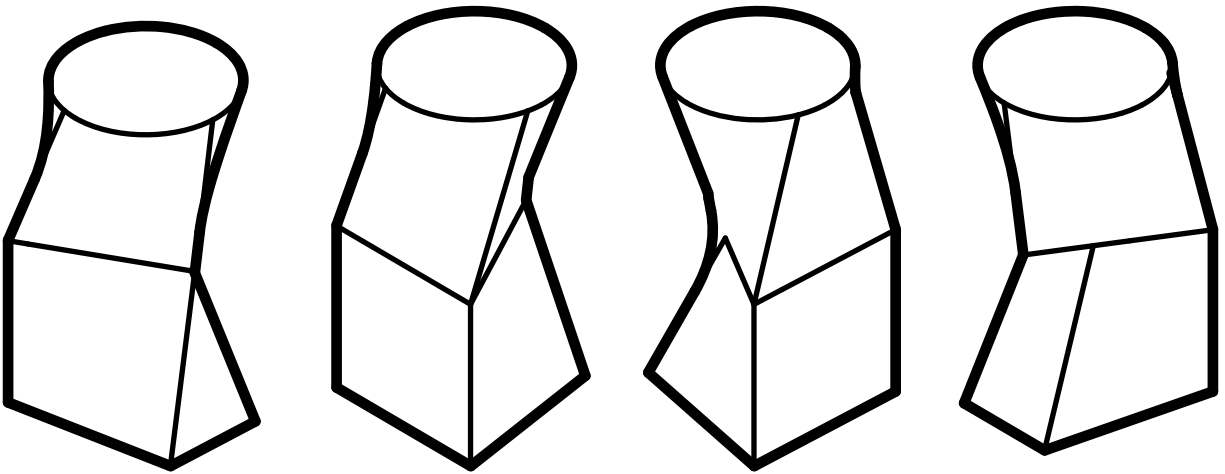
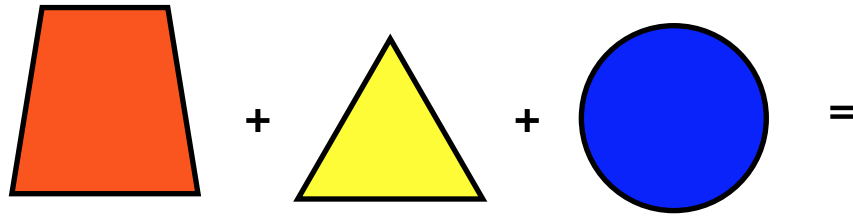
Colors Generating Form: Blue and Red and Orange



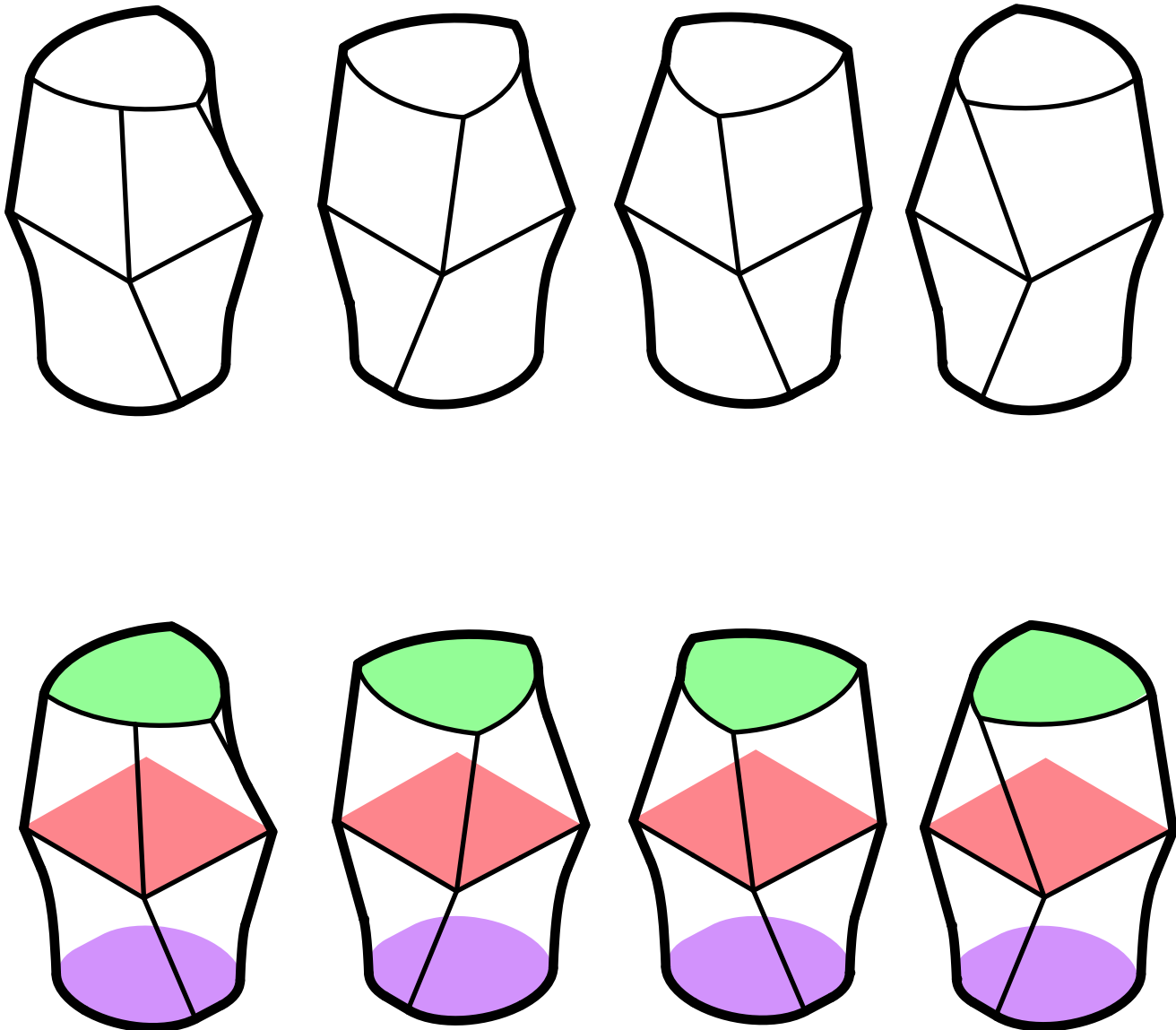
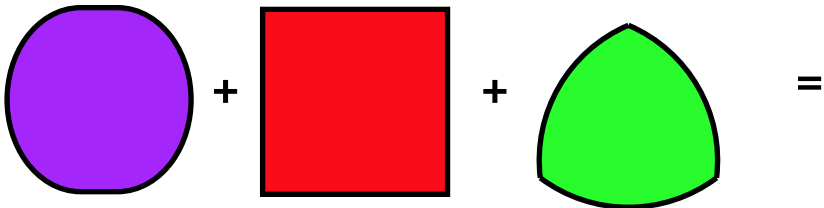
Colors Generating Form: Purple and Orange and Yellow



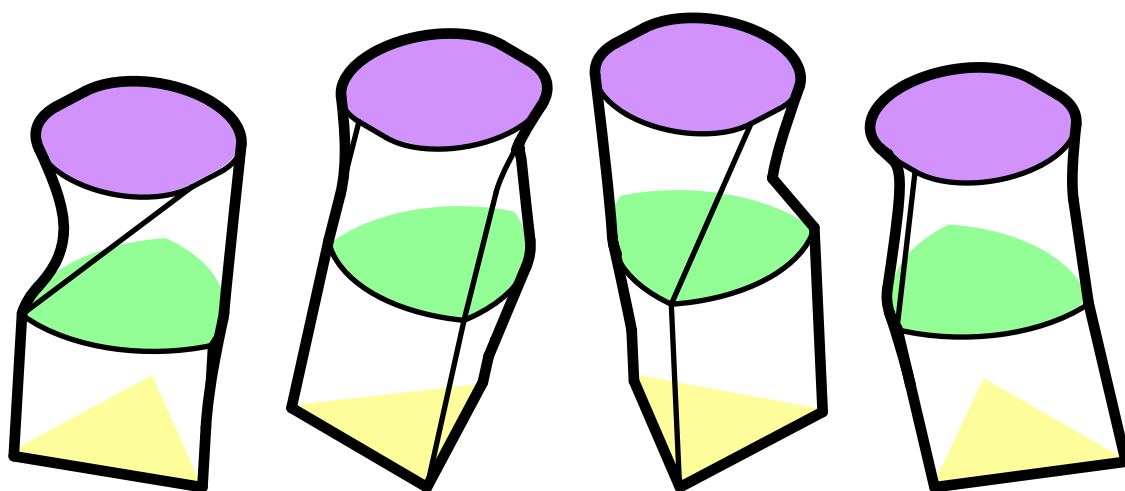
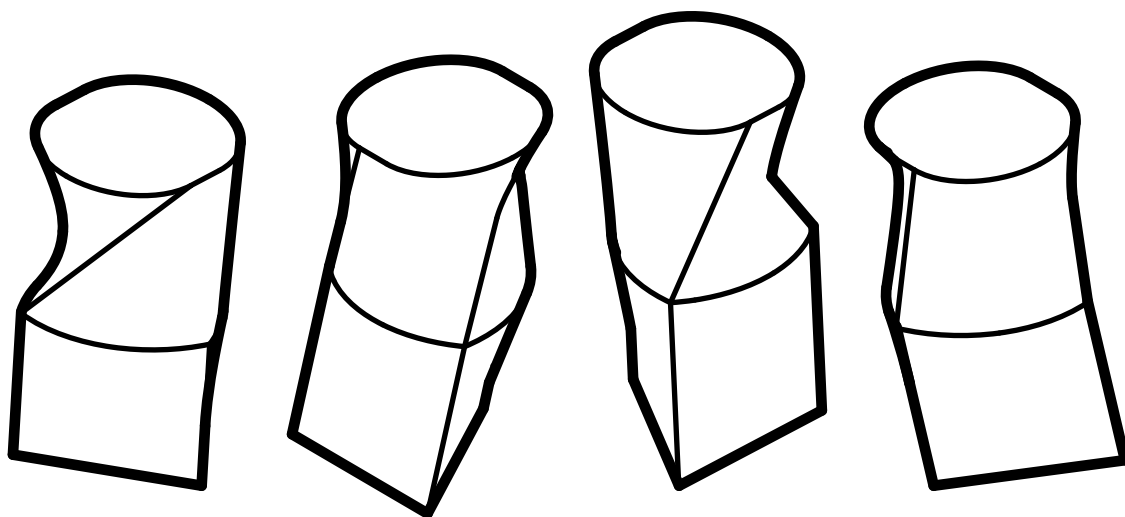
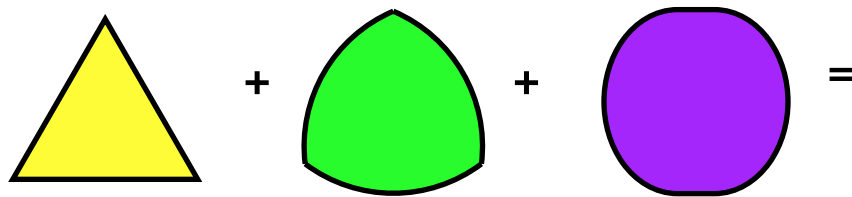
Colors Generating Form: Orange and Yellow and Blue



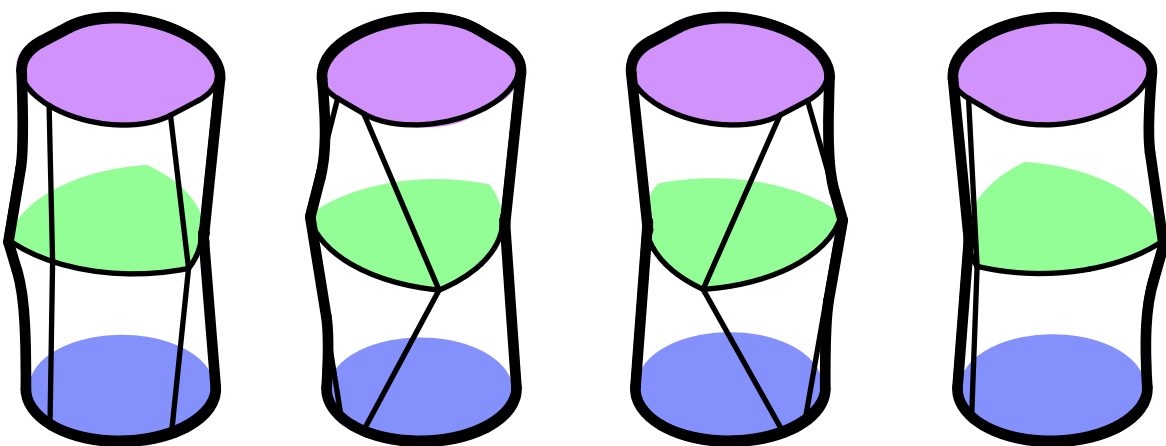
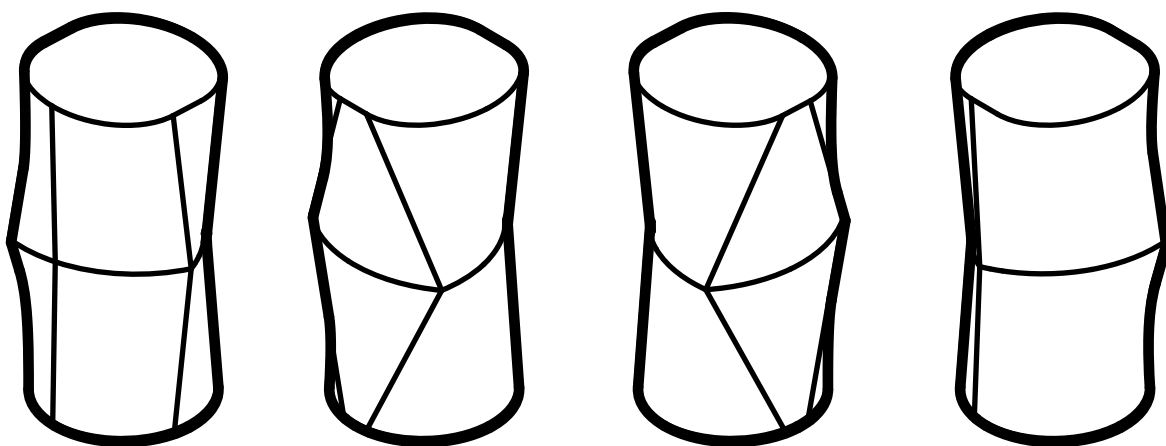
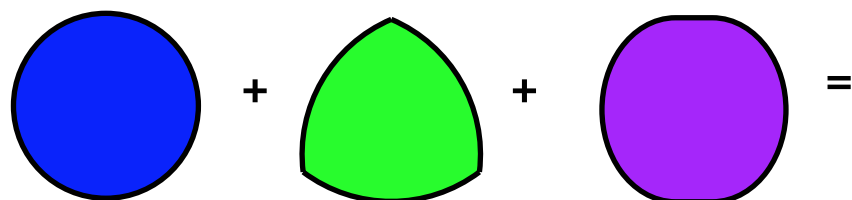
Colors Generating Form: Red and Purple and Green



Colors Generating Form: Yellow and Green and Purple



Colors Generating Form: Blue and Green and Purple



Results and Outcomes:

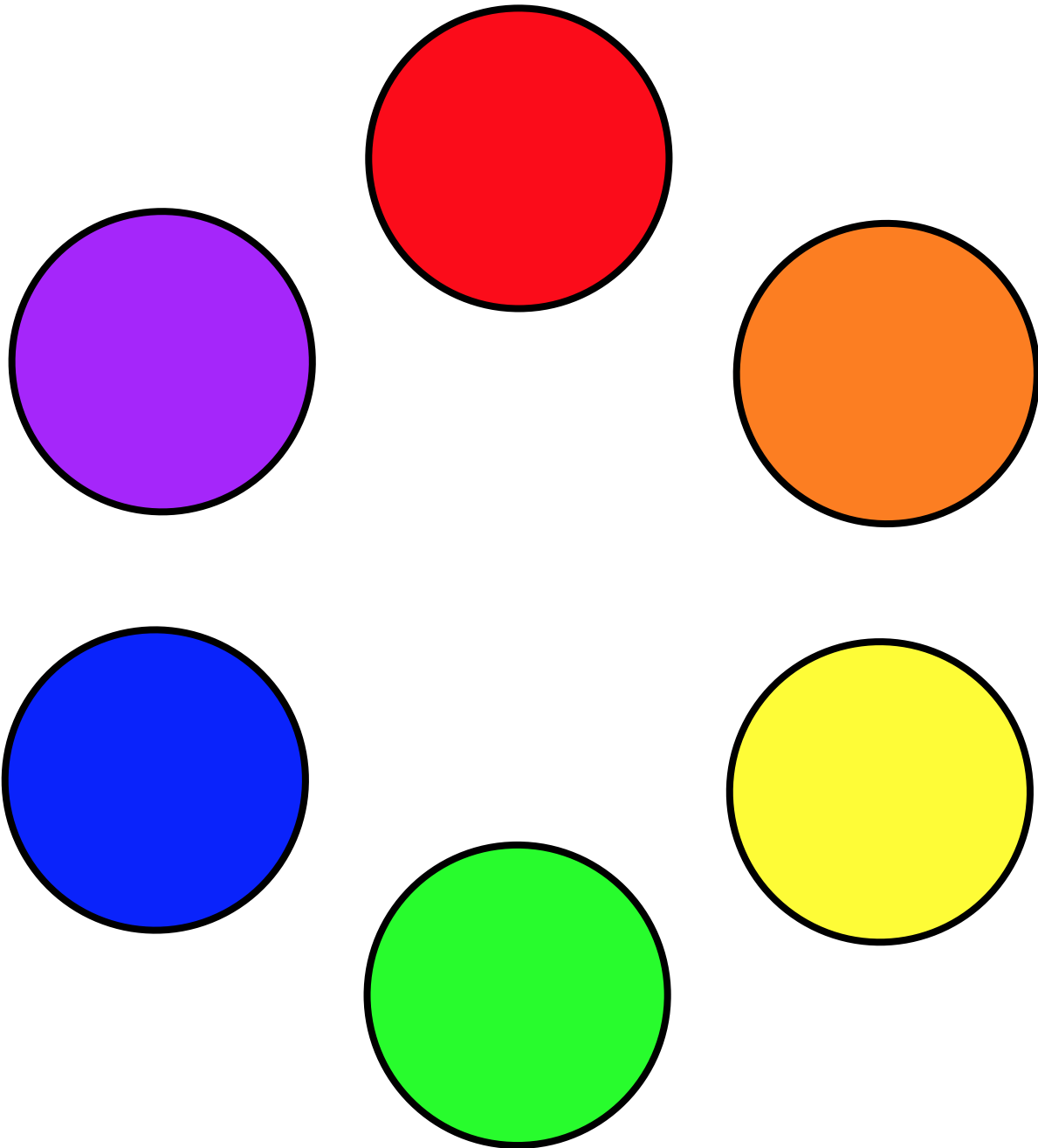
Series 2:

Using Johannes Itten's Fundamental Color and Shape Theory

+

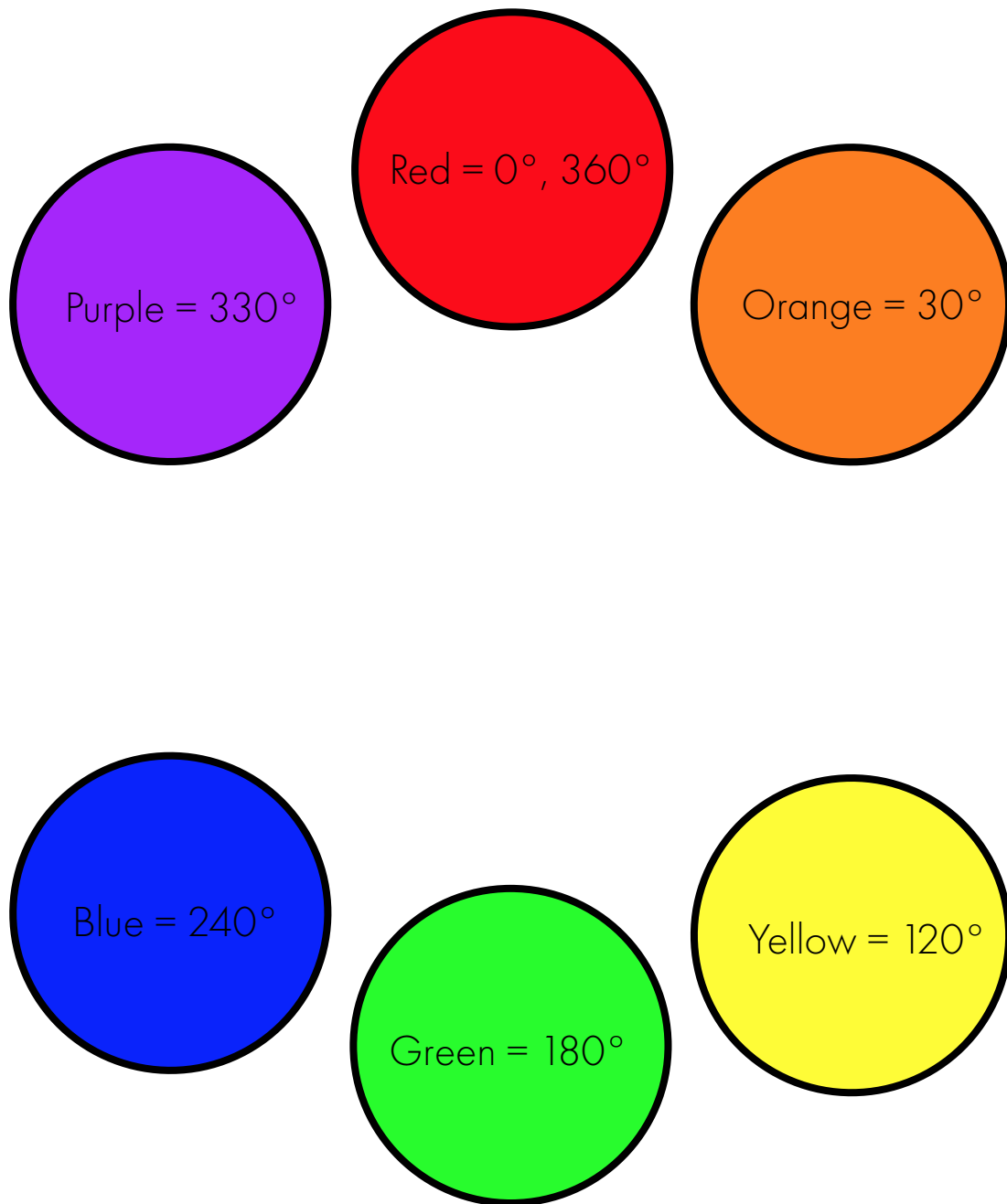
Color/Hue Wheel Relationships

Using the Color Hue Wheel Degree Relationships to Generate Form



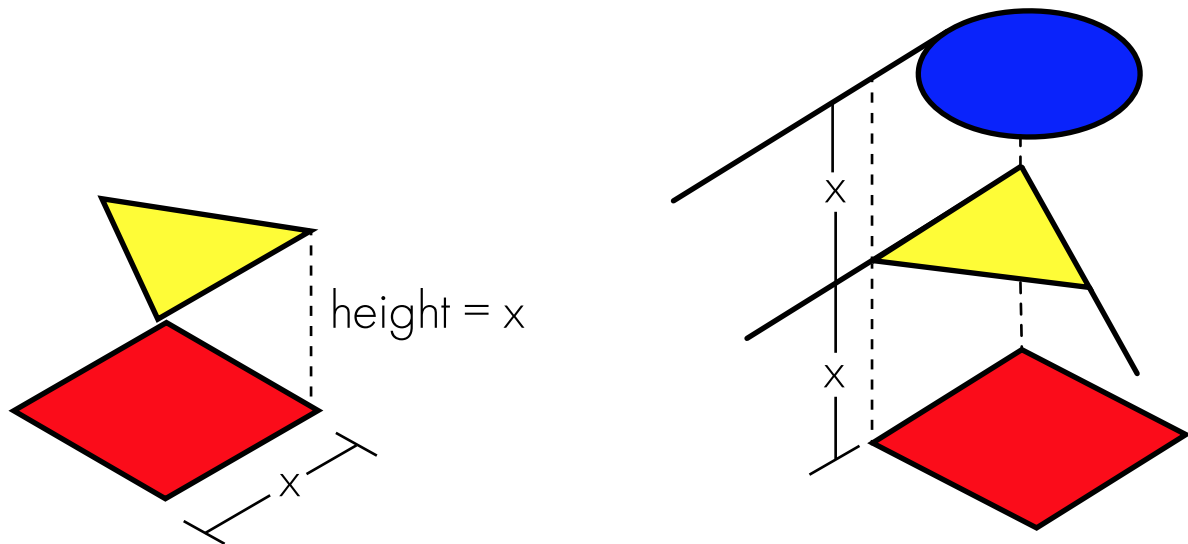
This Color/Hue Wheel was made in order to create the next series of color generated forms in response to existing color wheels, but only utilizing the colors from Itten's fundamental Color and Form Diagram.

Using the Color Hue Wheel Degree Relationships to Generate Form



The degrees assigned to each color represent the degrees of rotation in series 2. When creating forms in series 2, the degrees of the colors being combined are subtracted from one another to show their relationship in the rotation. The degrees assigned to each color was based on the literature review examples.

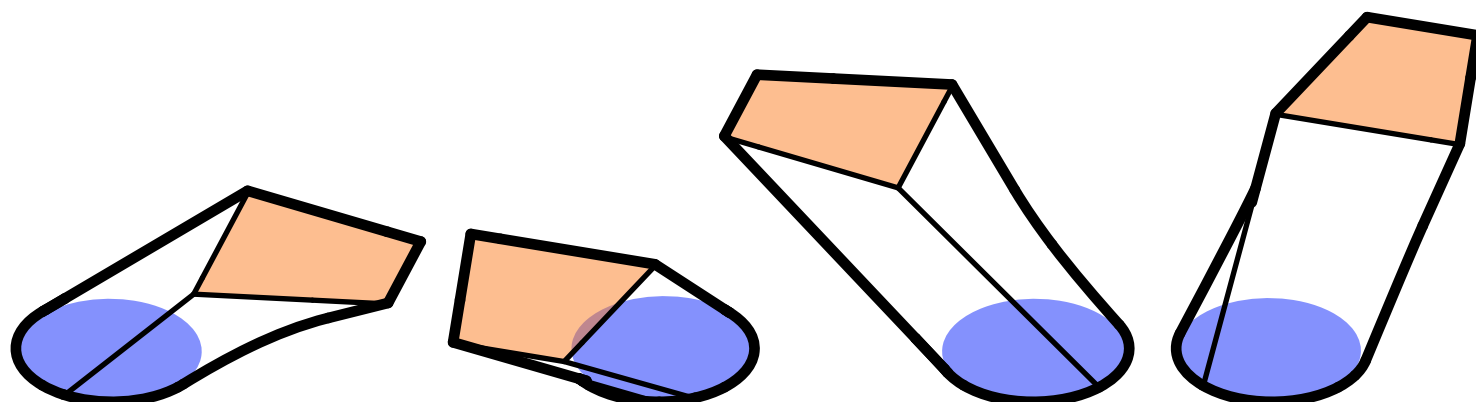
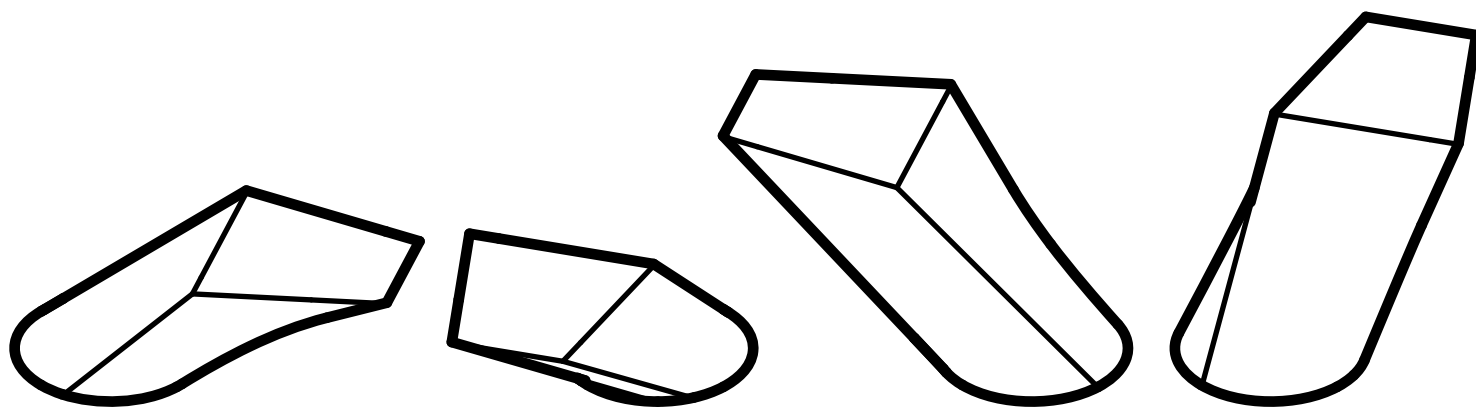
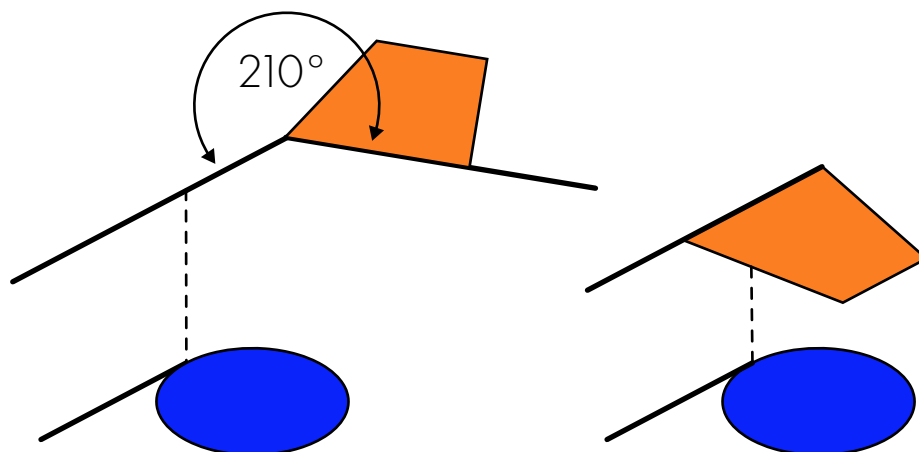
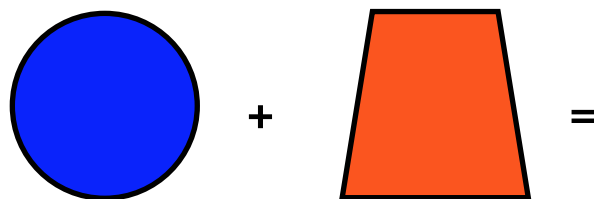
Form Parameters



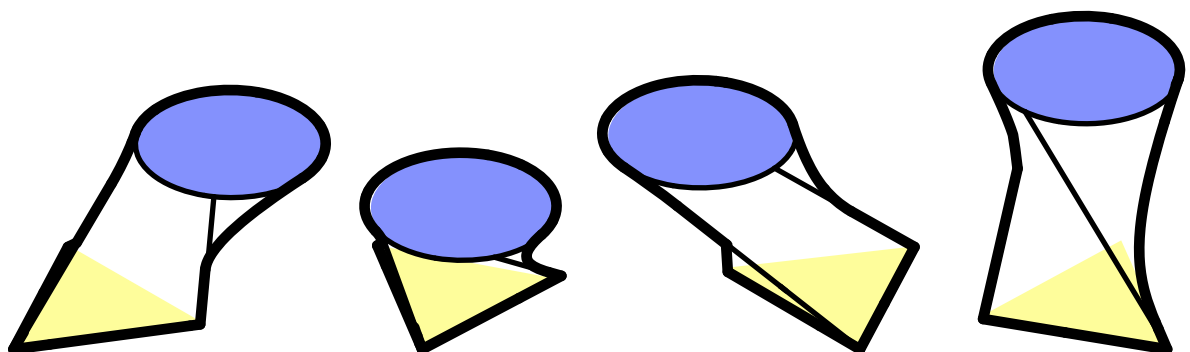
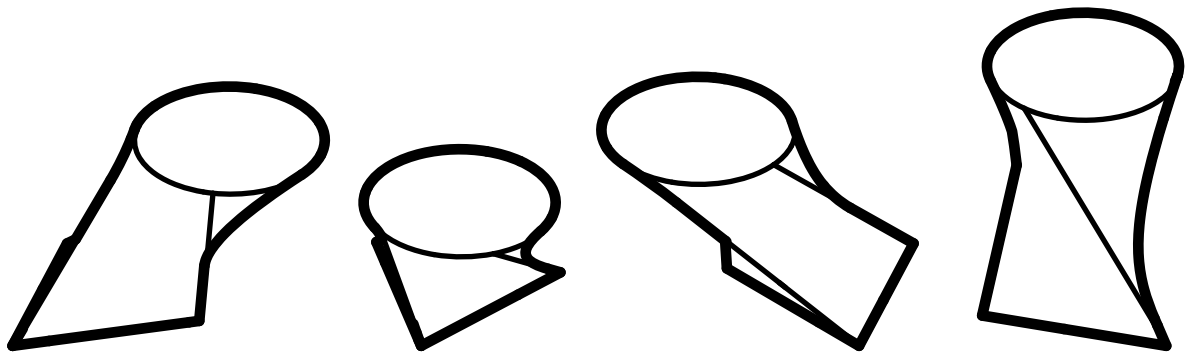
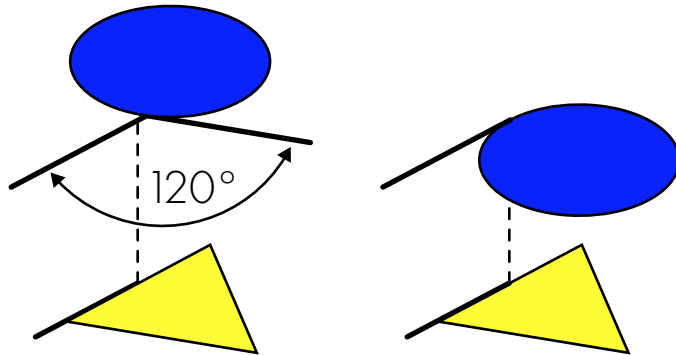
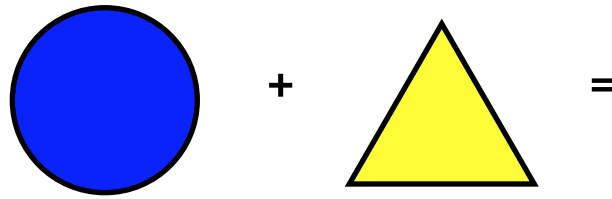
The size of each form is based on decided upon deliverables in order to achieve consistency in the tests. The square is 5 units by 5 units, the triangle has a bottom edge equaling 5 units and fits within the square, and the circle has a diameter of 5 units. All other shapes evolve directly from these parameters. The height of the volumes has a direct relationship with the established 5 units of measurement.

The degree of rotation shows the relationship between the degree variation difference between the color below it. If there are 3 colors generating the form, the second shape is rotated at the degree difference between the bottom shape below, and the third shape is rotated at the degree difference between the middle shape. In order to show this relationship accurately, the top shape is then rotated at the degrees the second shape was rotated so it is accurately showing only the difference between the second and third shapes making the form.

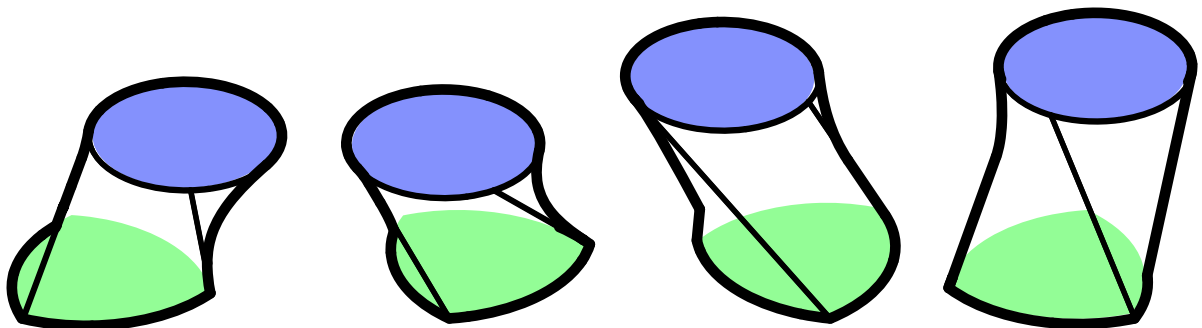
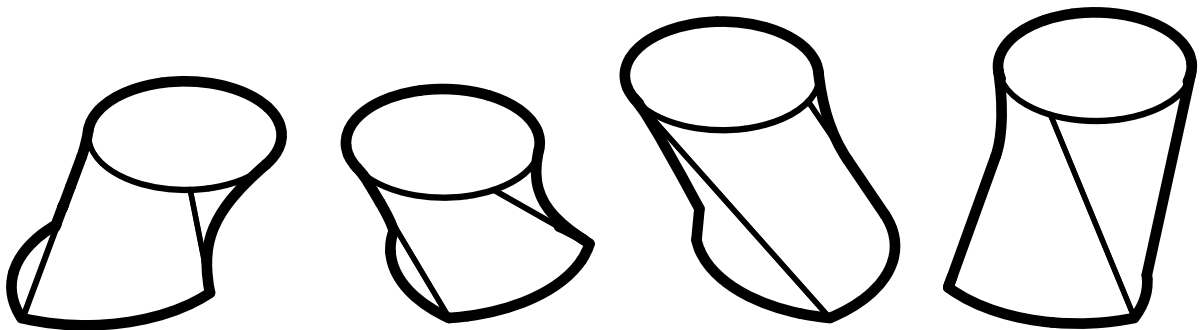
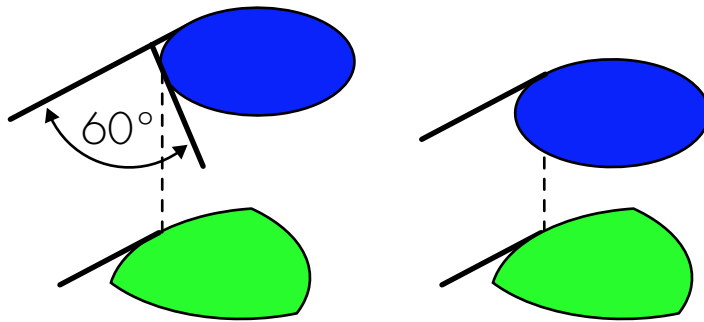
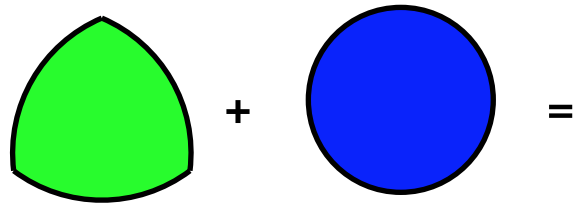
Colors Generating Form: Blue and Orange



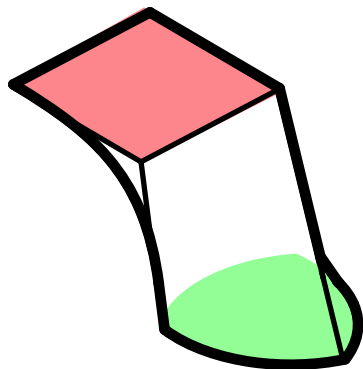
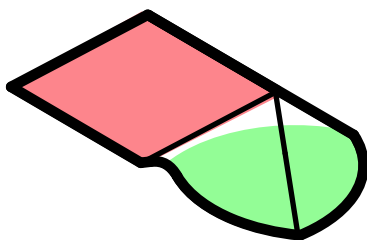
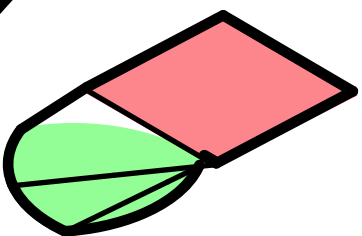
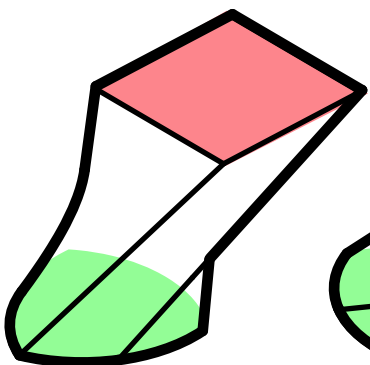
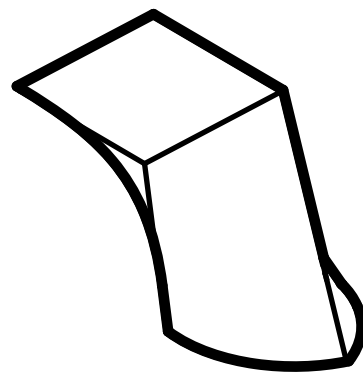
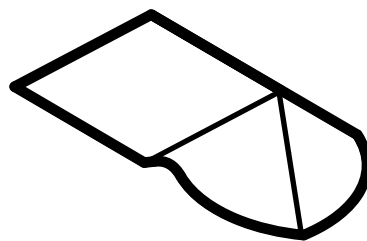
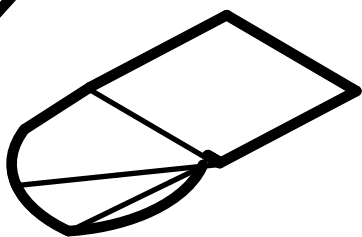
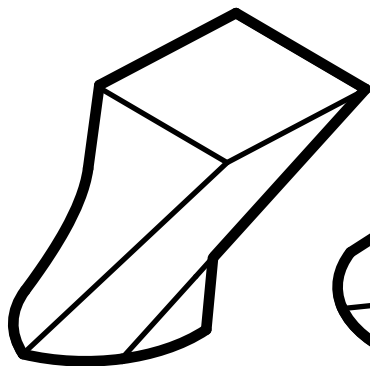
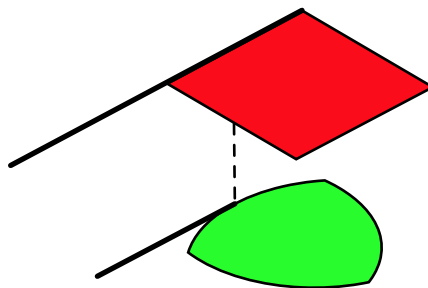
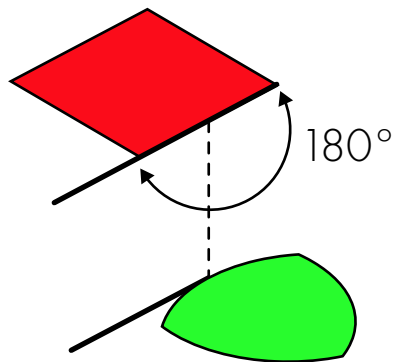
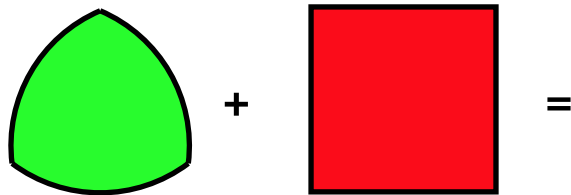
Colors Generating Form: Blue and Yellow



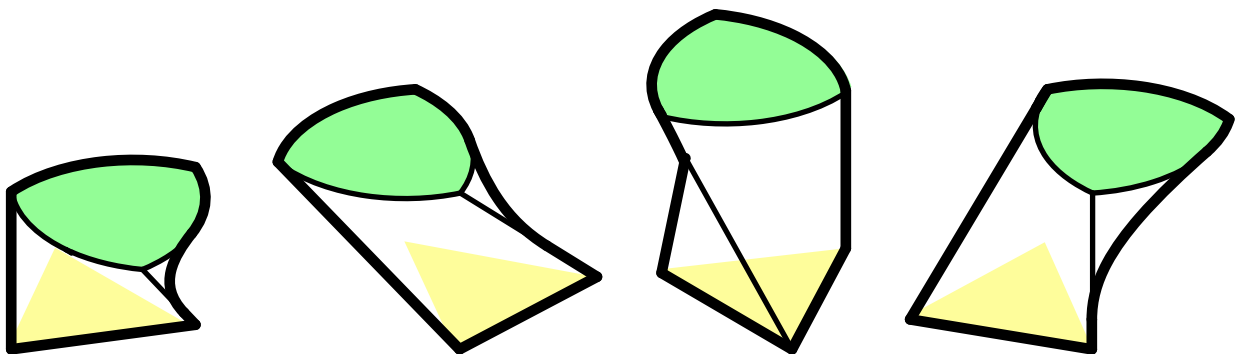
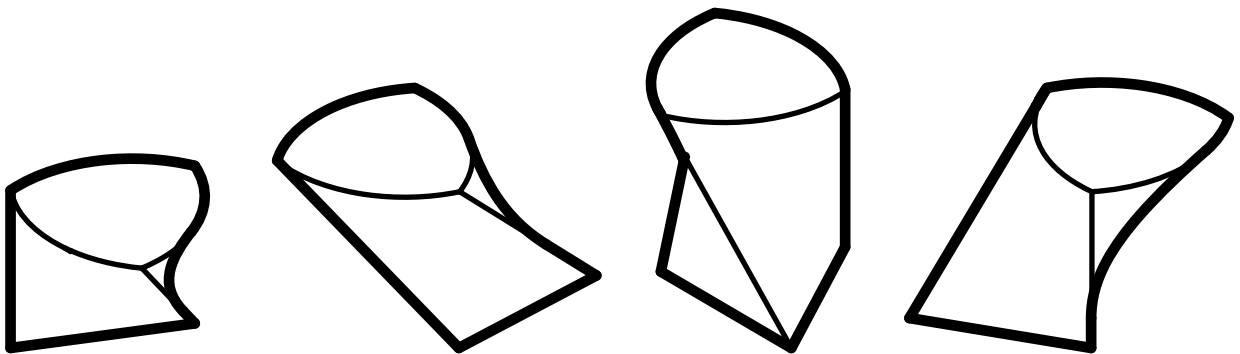
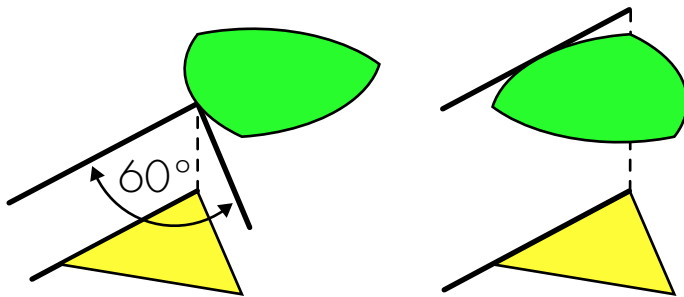
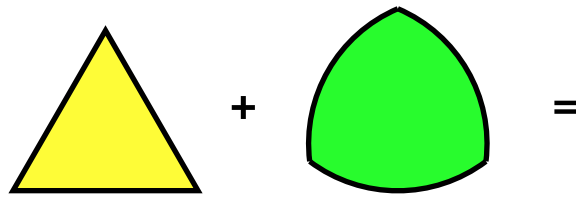
Colors Generating Form: Green and Blue



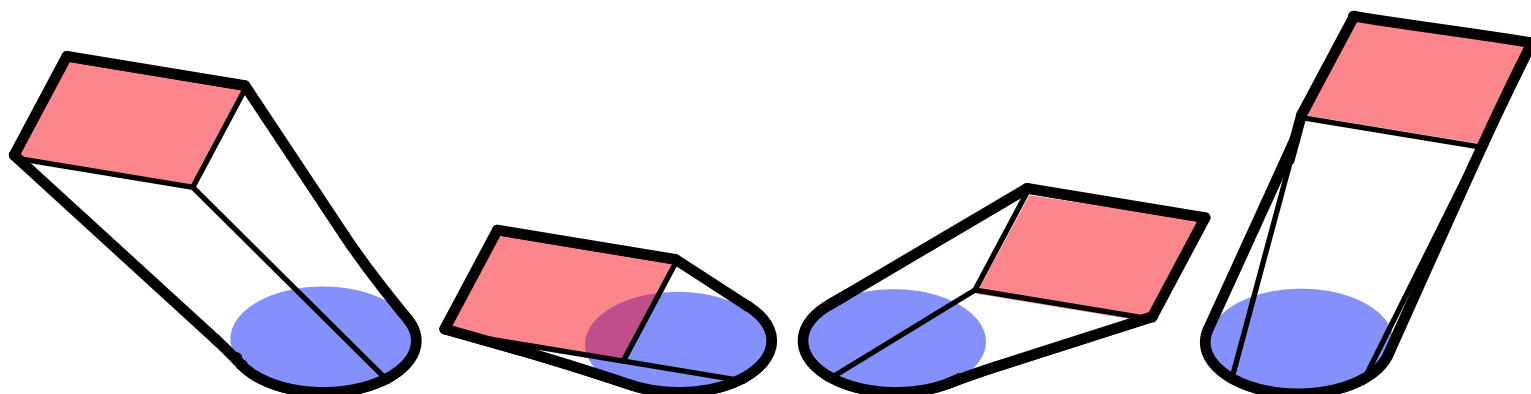
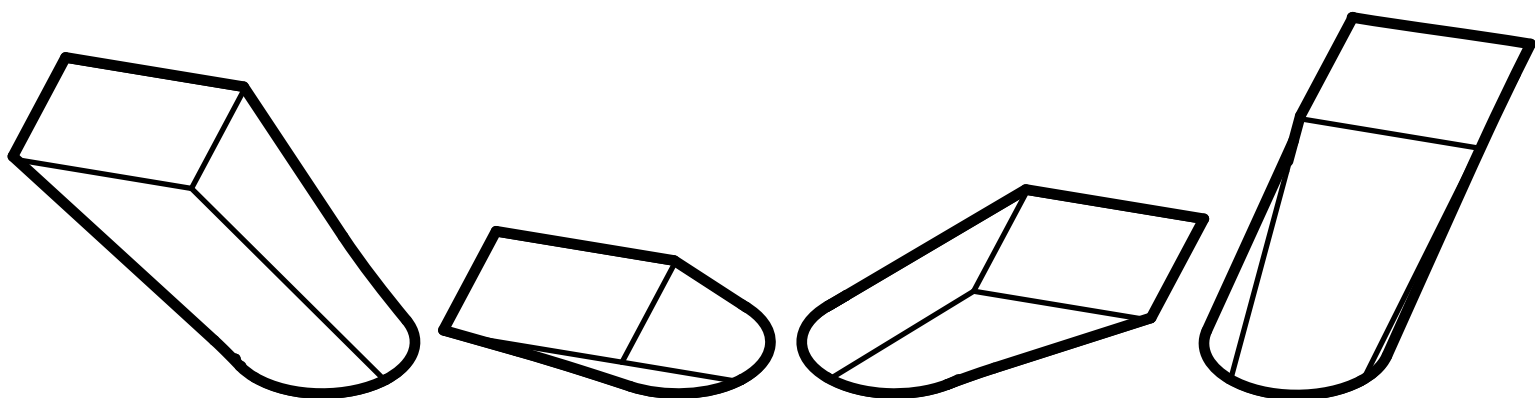
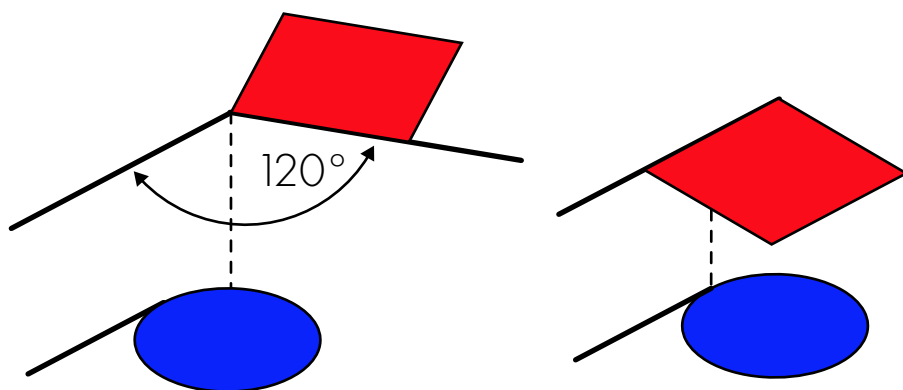
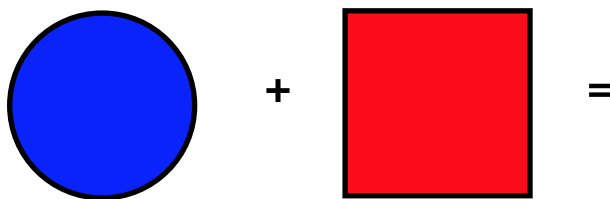
Colors Generating Form: Green and Red



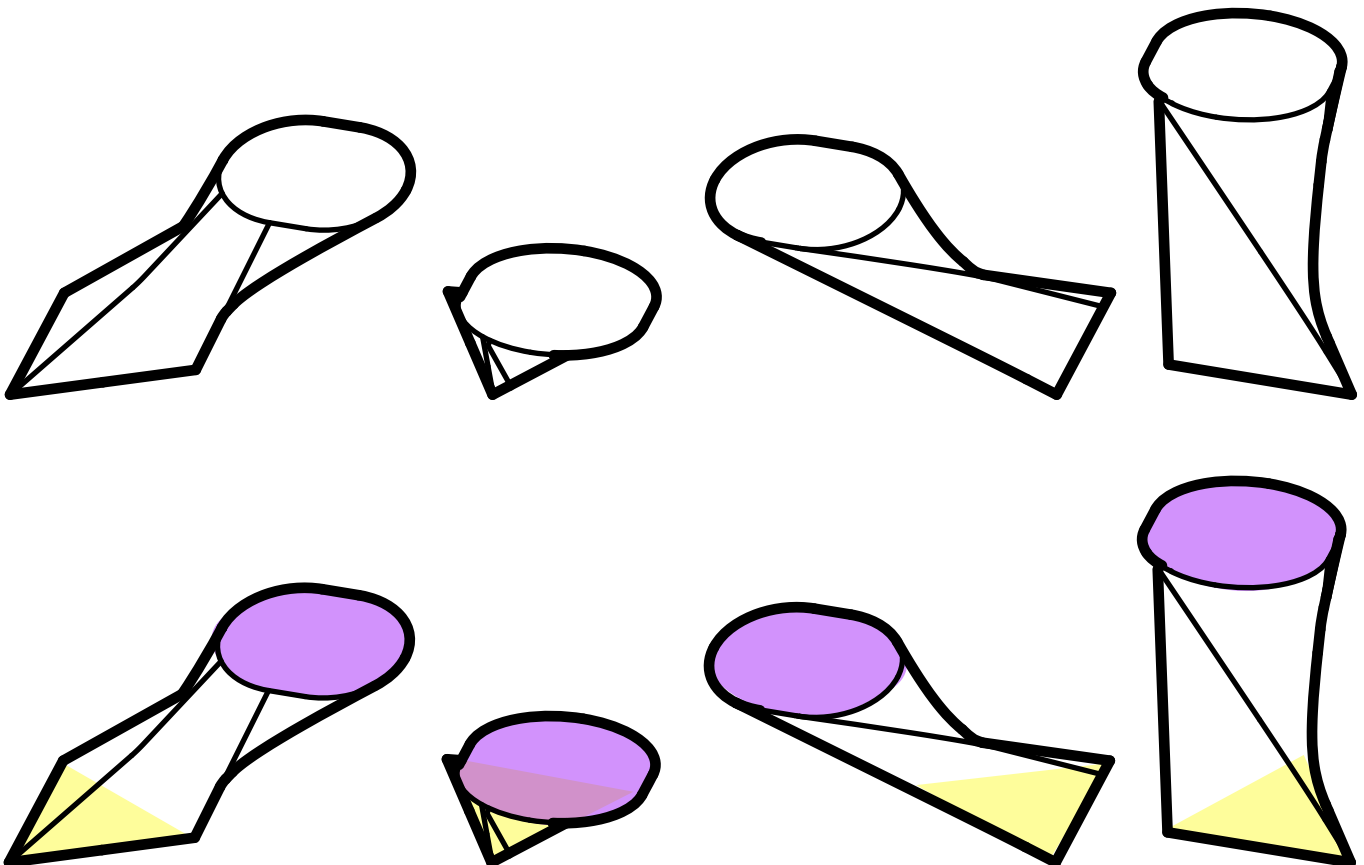
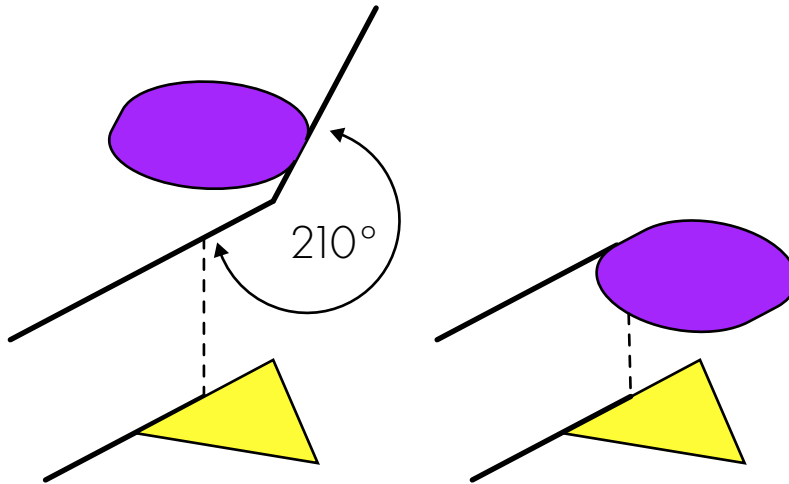
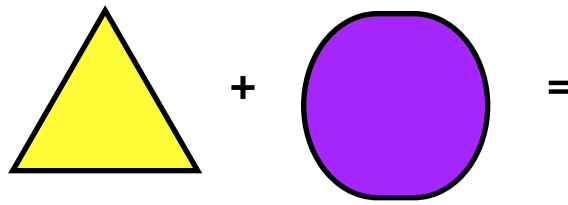
Colors Generating Form: Yellow and Green



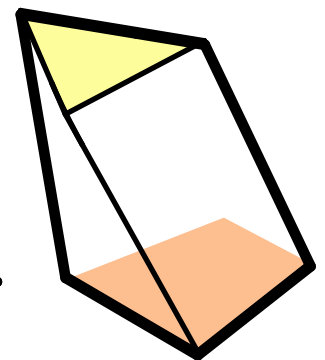
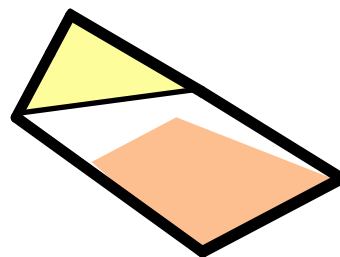
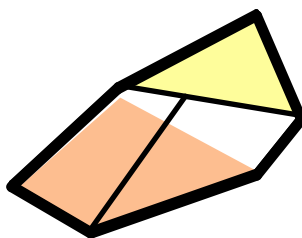
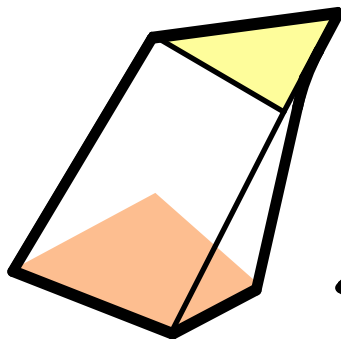
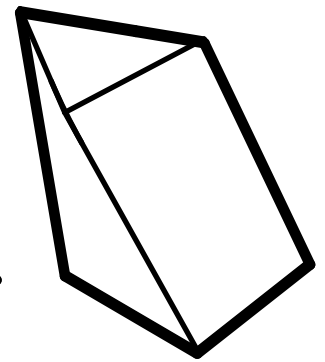
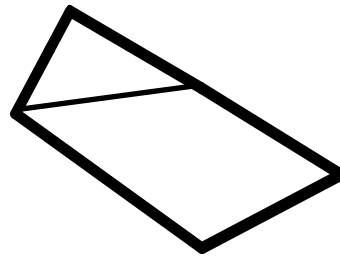
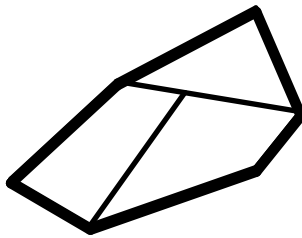
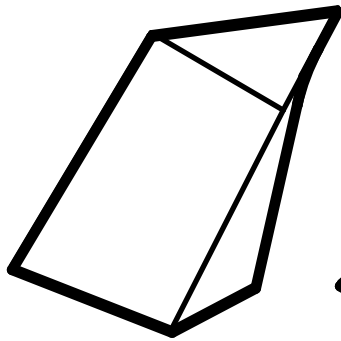
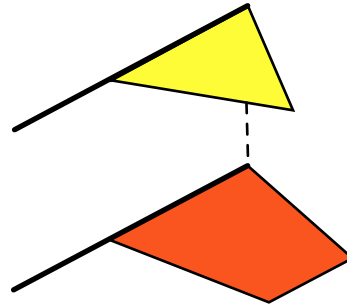
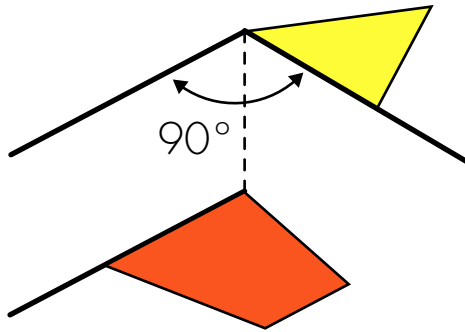
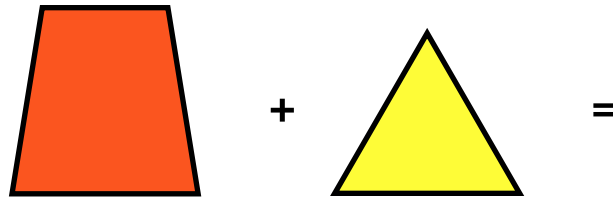
Colors Generating Form: Blue and Red



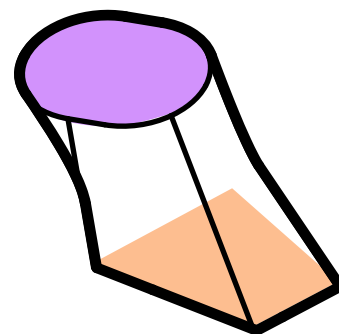
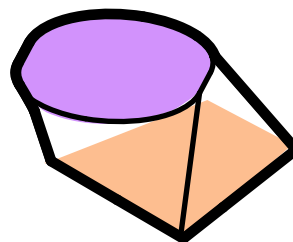
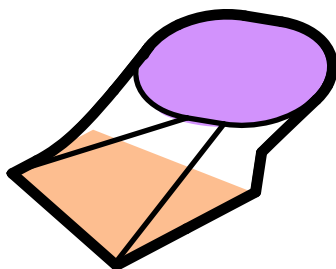
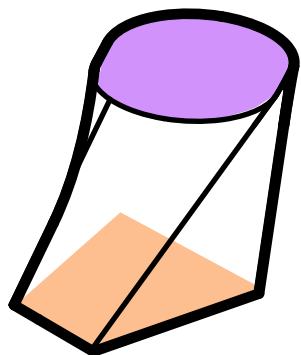
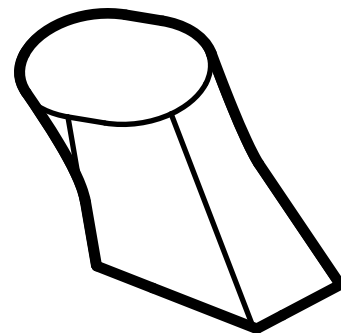
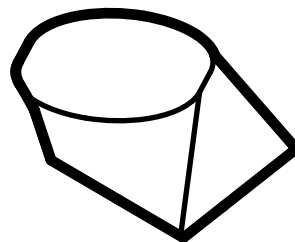
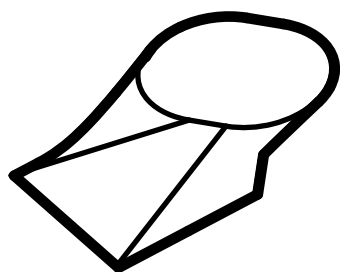
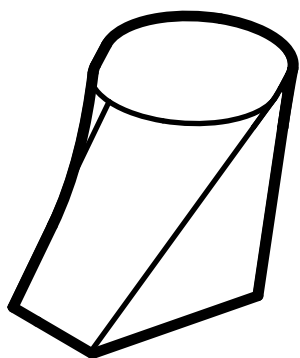
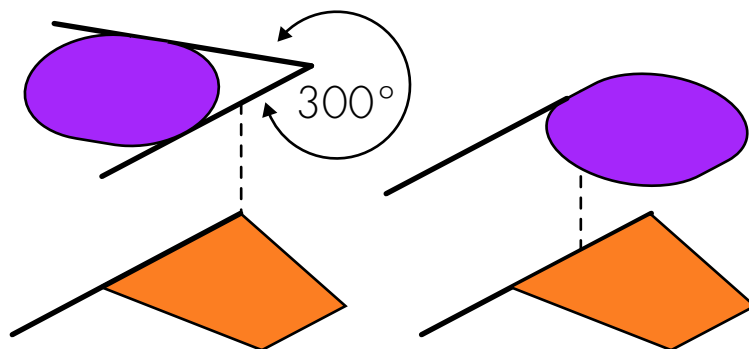
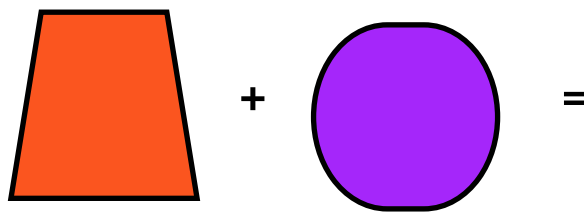
Colors Generating Form: Yellow and Purple



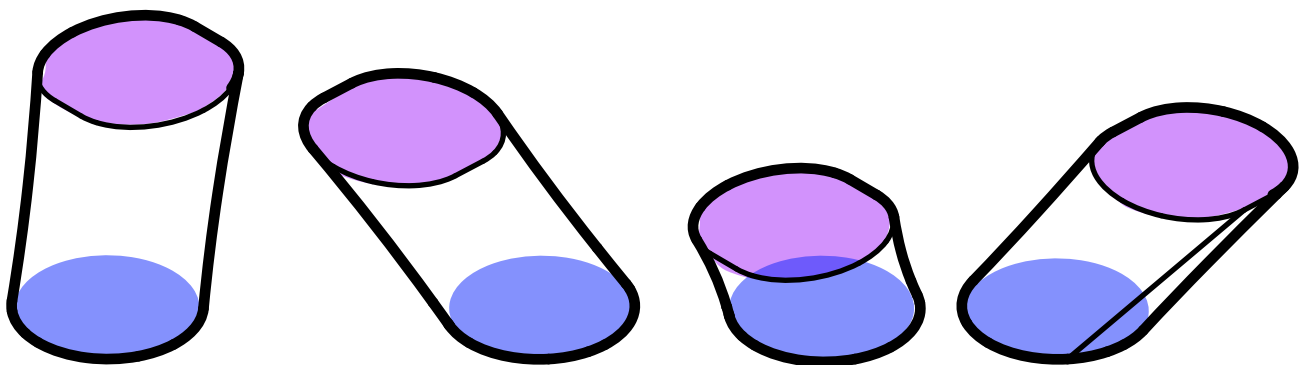
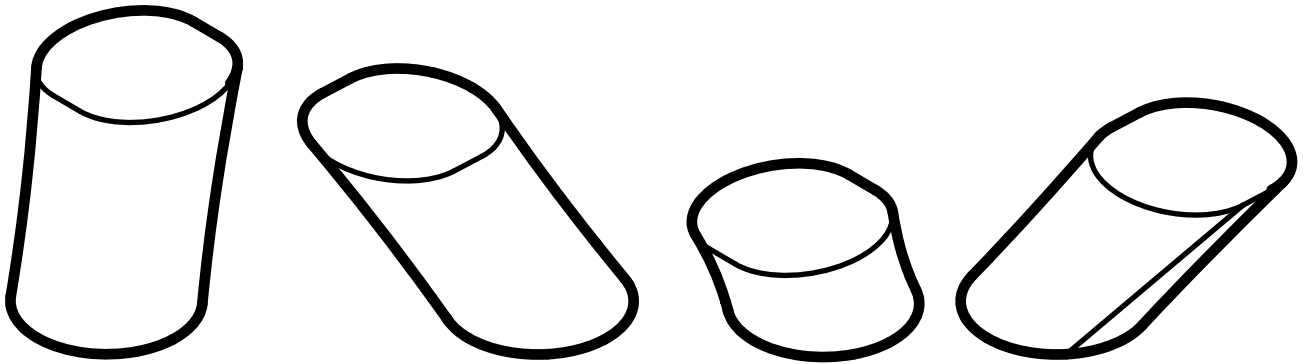
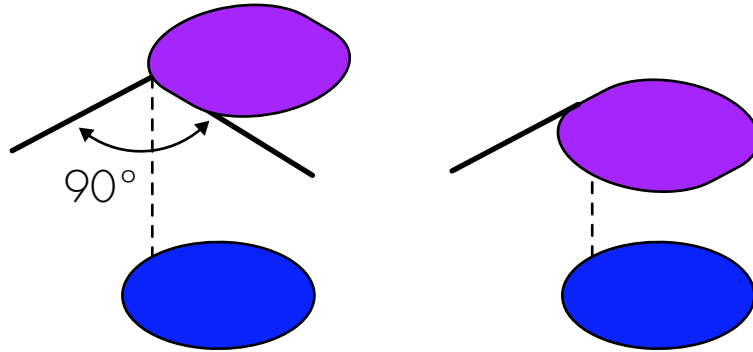
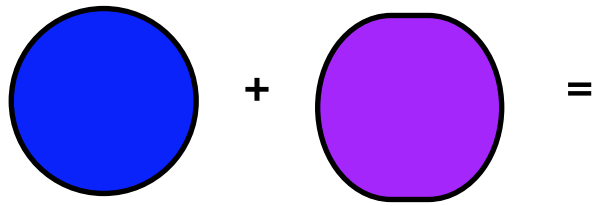
Colors Generating Form: Orange and Yellow



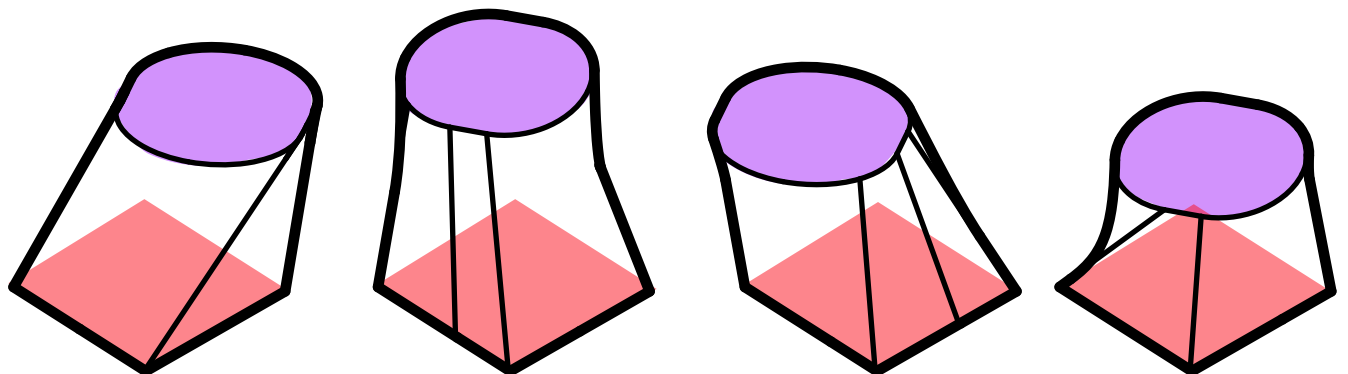
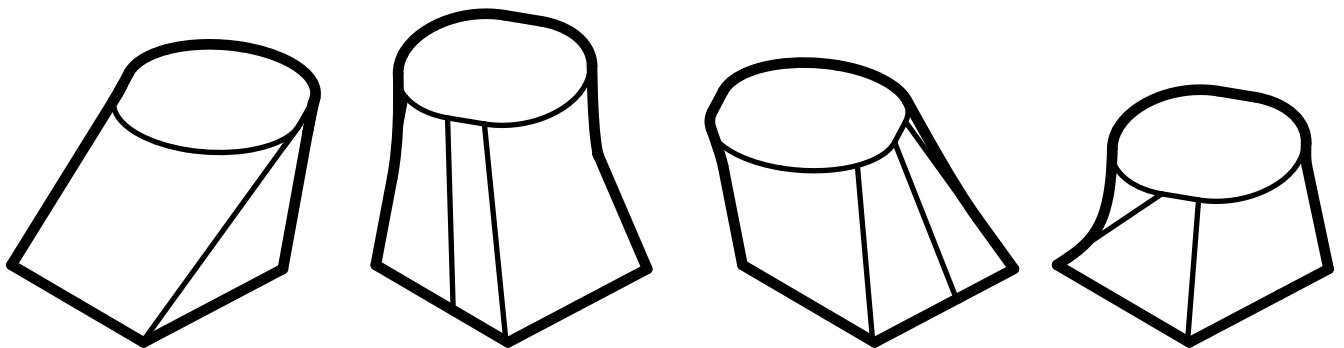
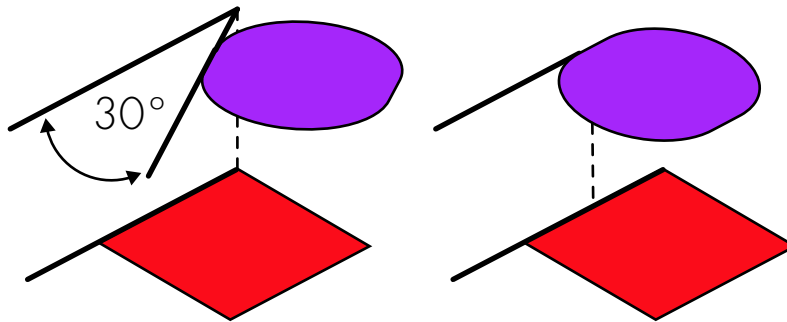
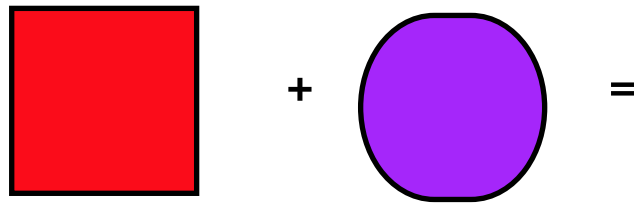
Colors Generating Form: Orange and Purple



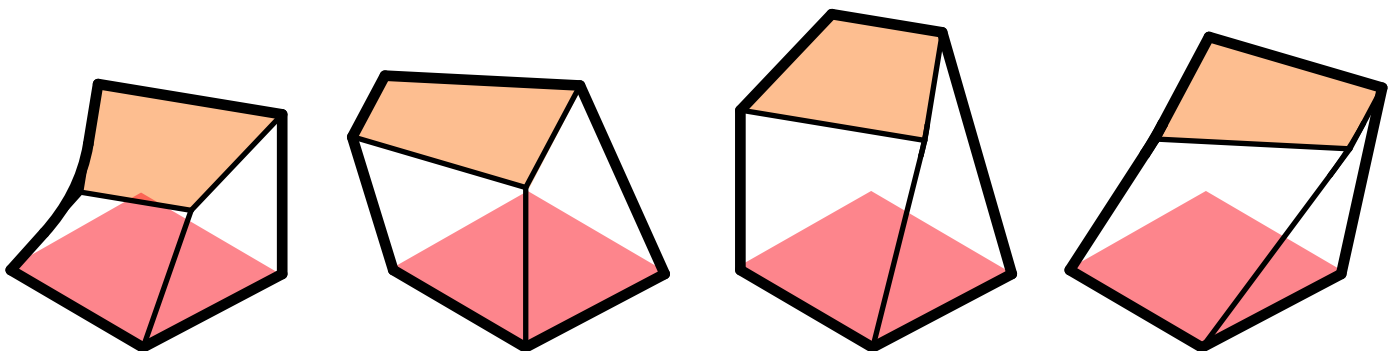
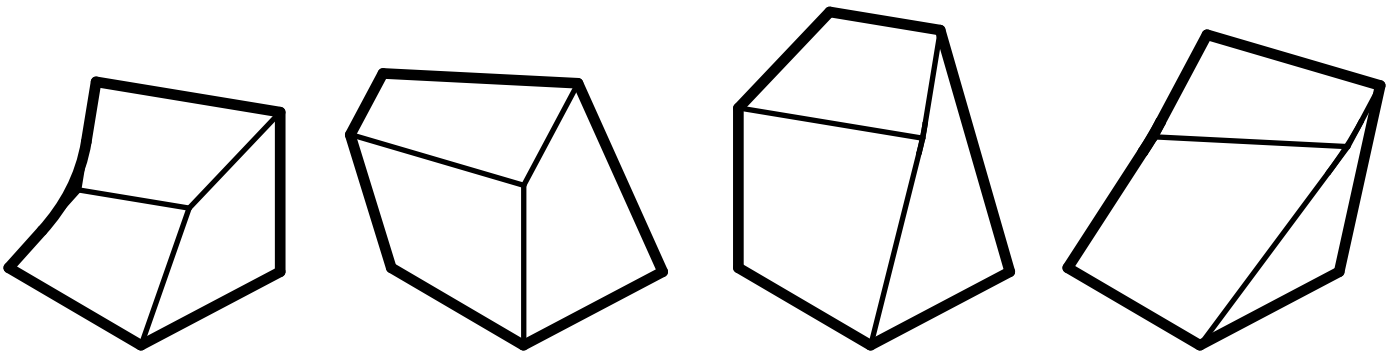
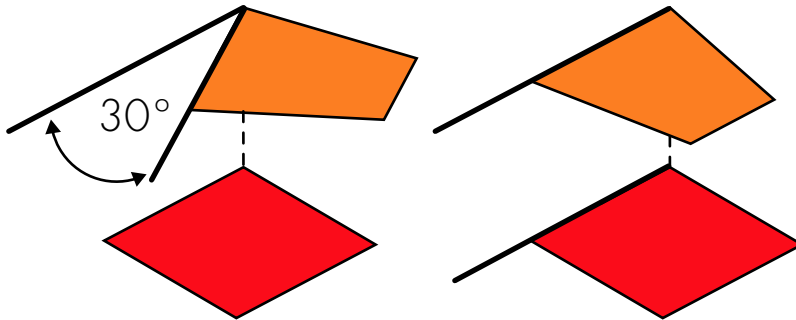
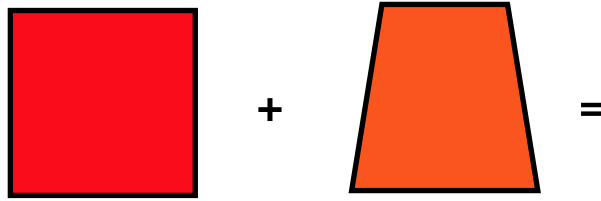
Colors Generating Form: Blue and Purple



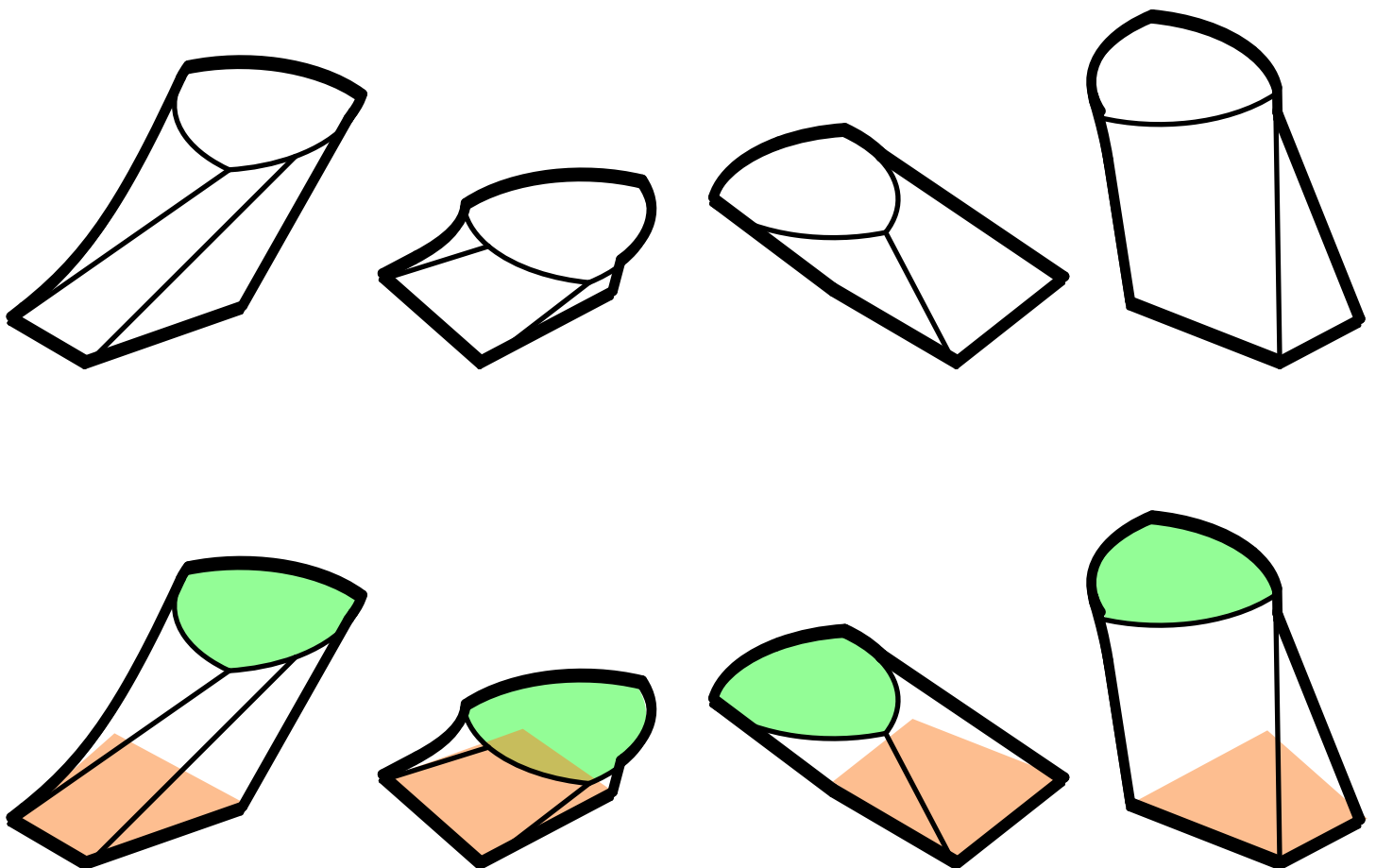
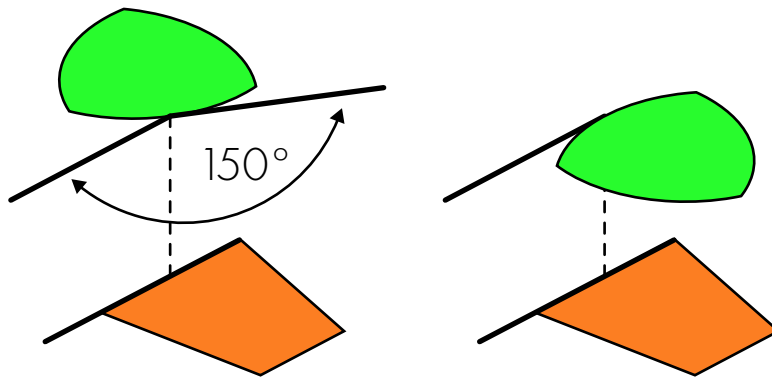
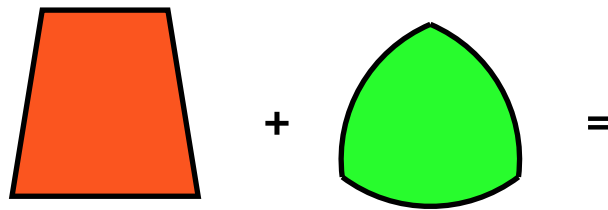
Colors Generating Form: Red and Purple



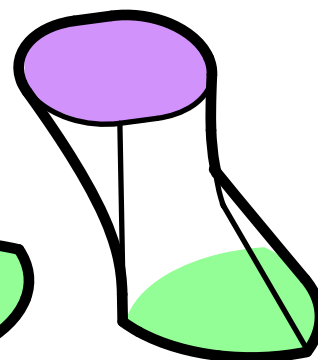
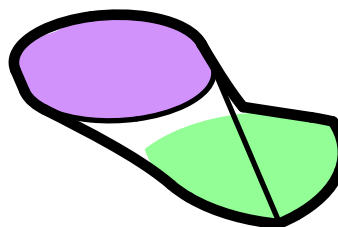
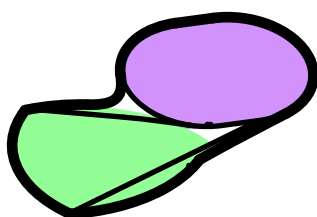
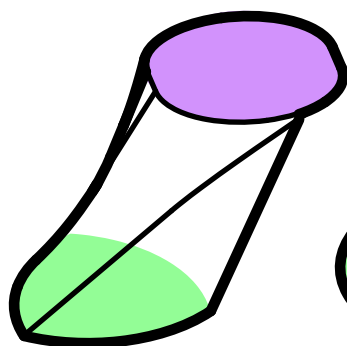
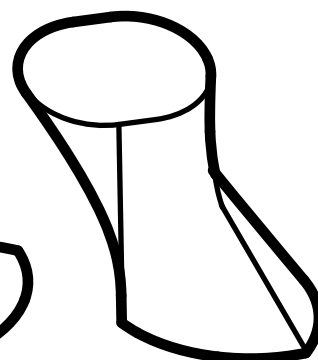
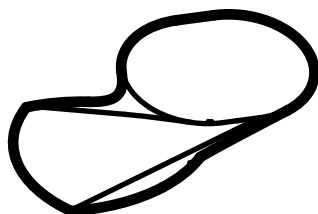
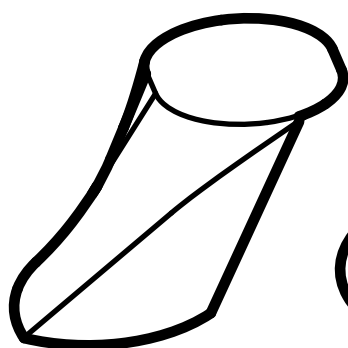
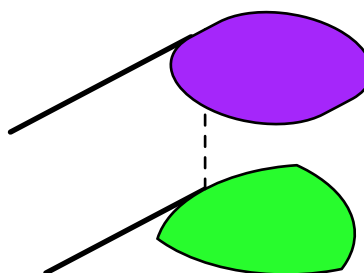
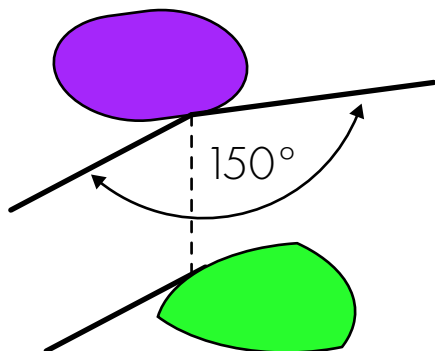
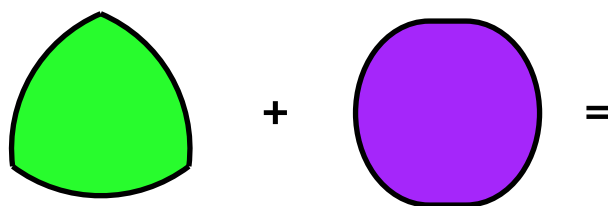
Colors Generating Form: Red and Orange



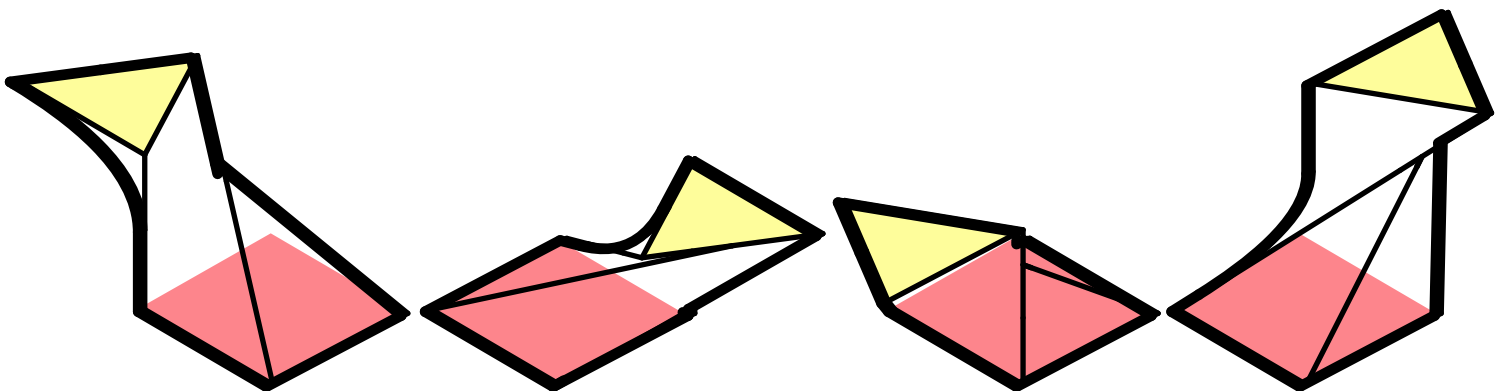
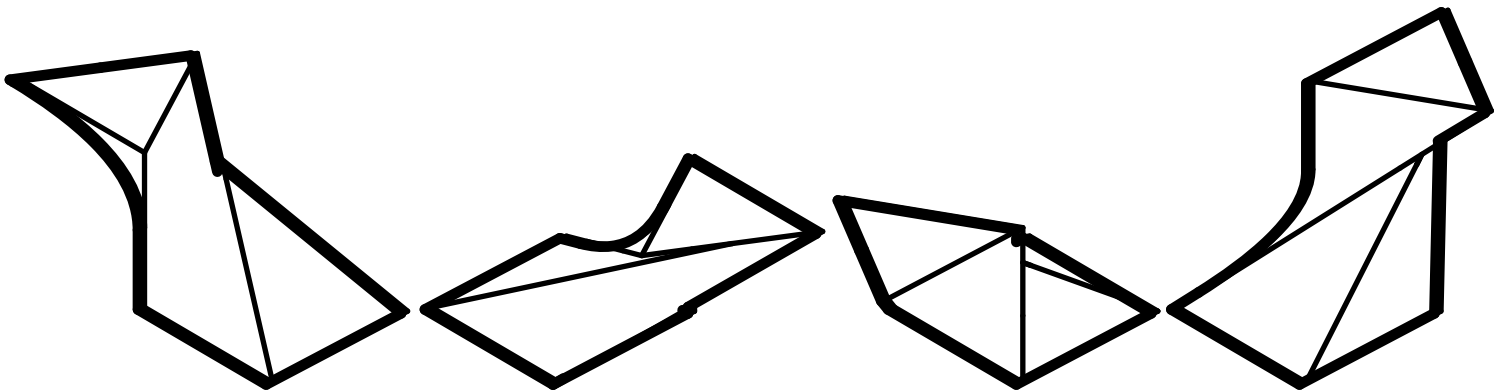
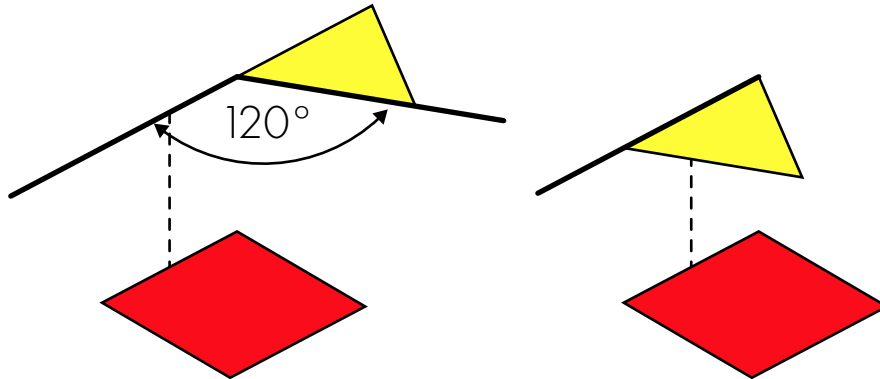
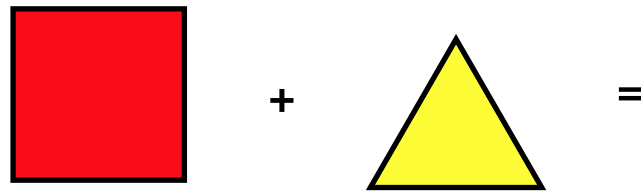
Colors Generating Form: Orange and Green



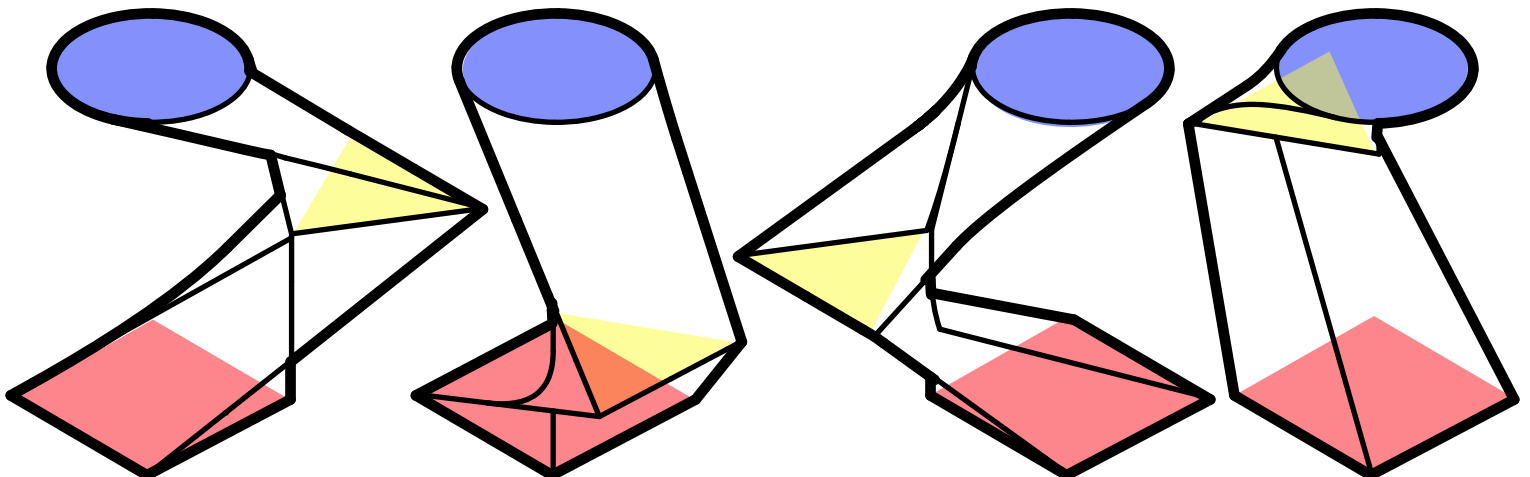
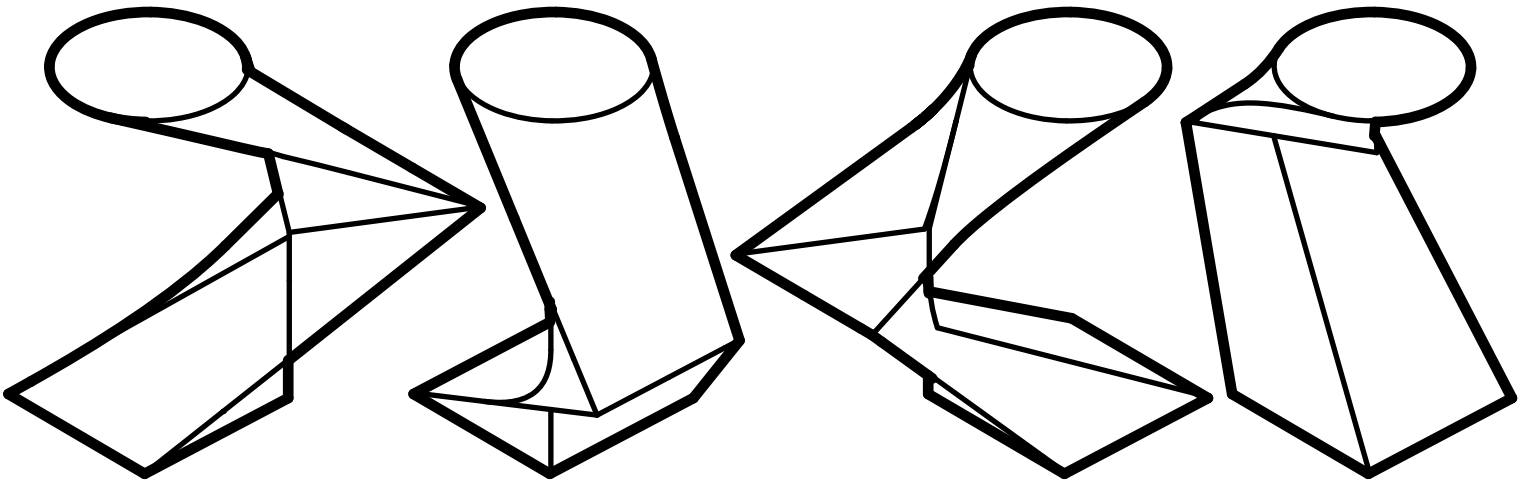
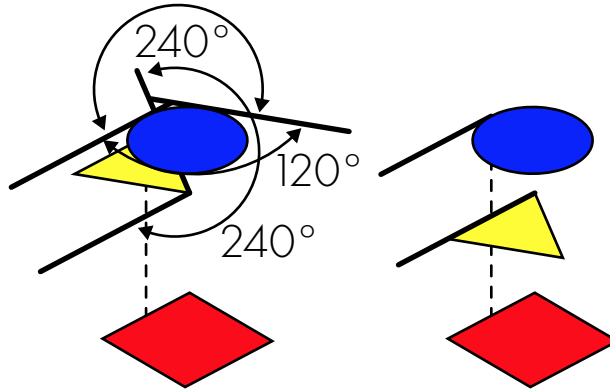
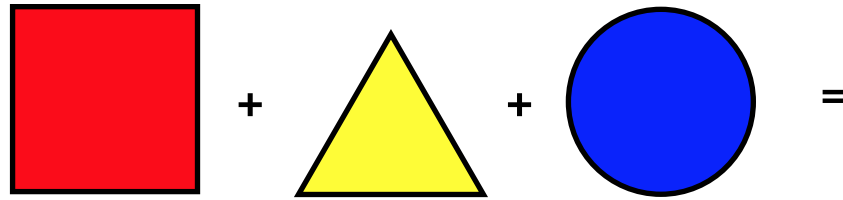
Colors Generating Form: Green and Purple



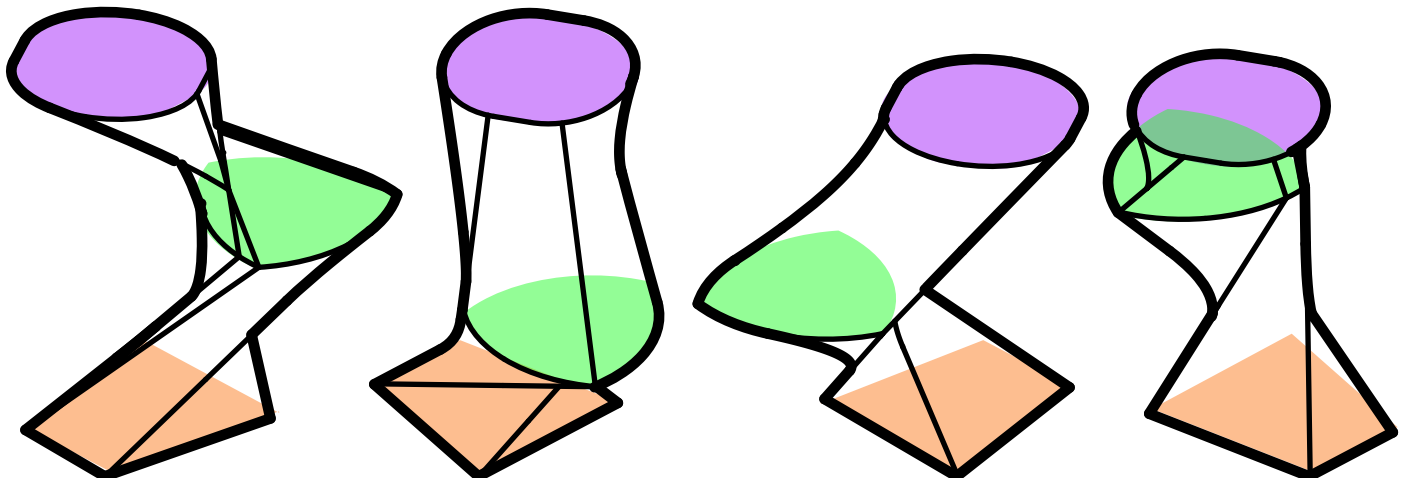
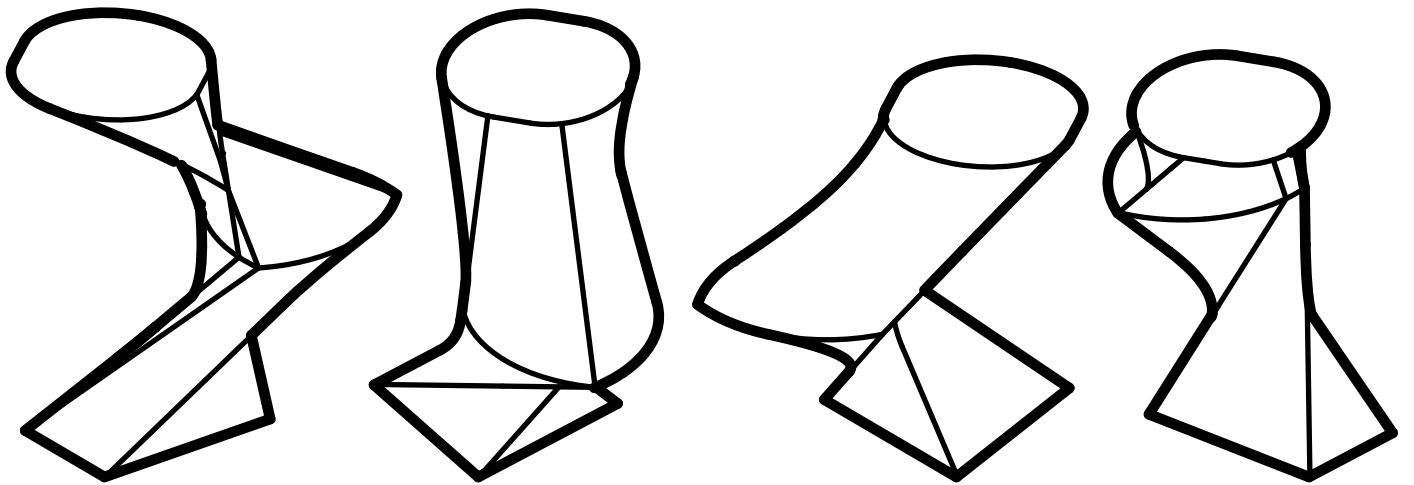
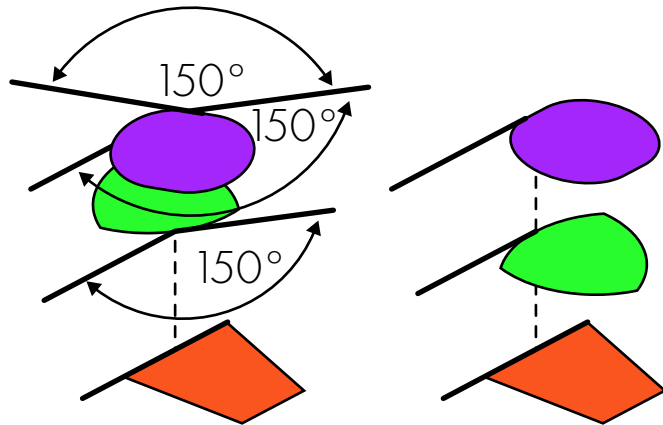
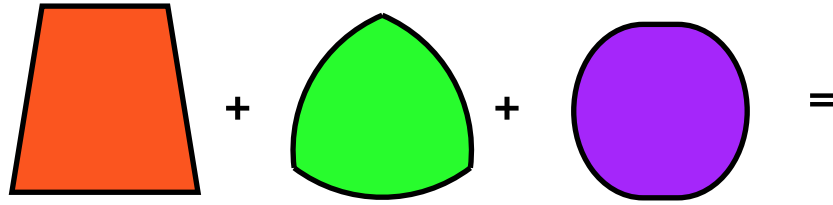
Colors Generating Form: Red and Yellow



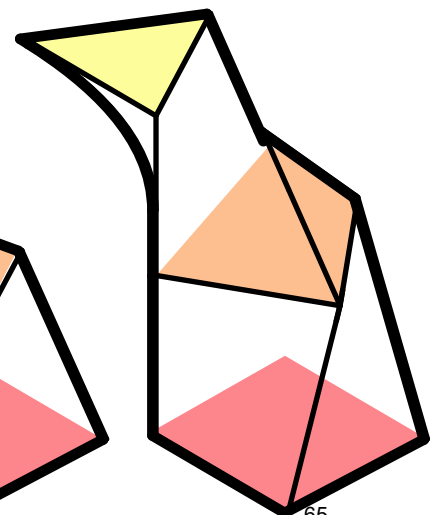
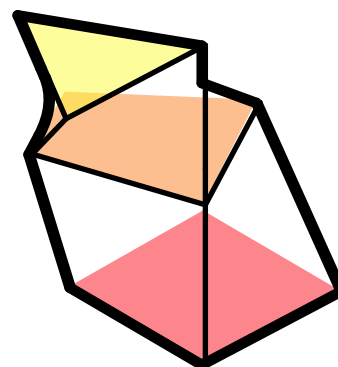
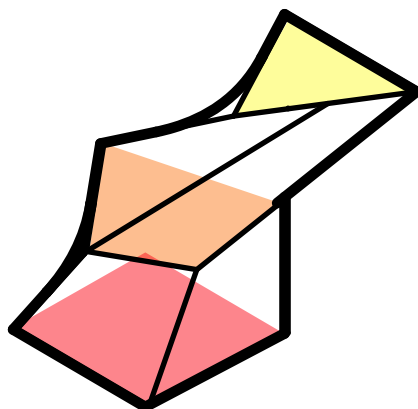
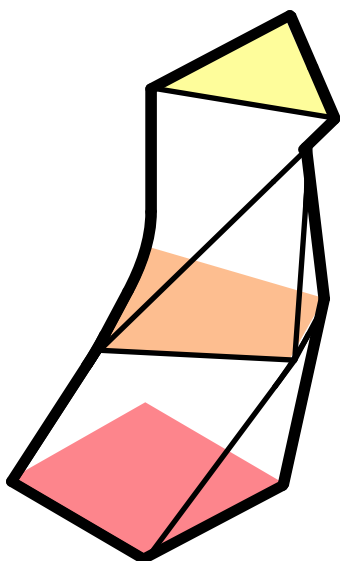
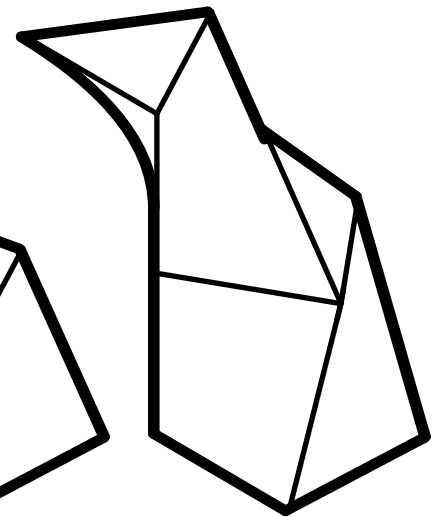
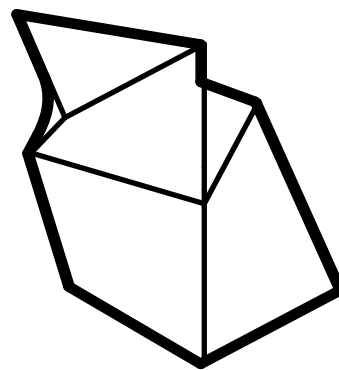
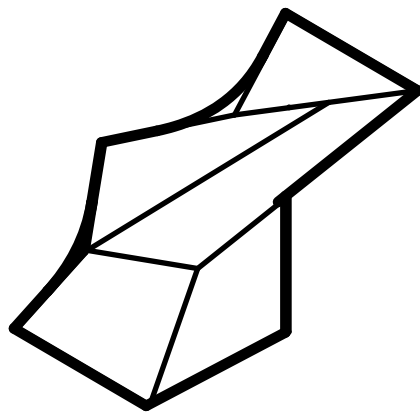
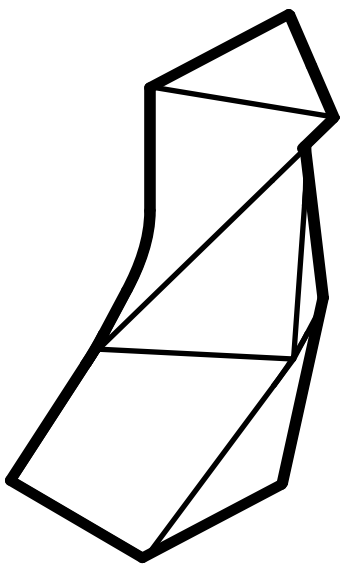
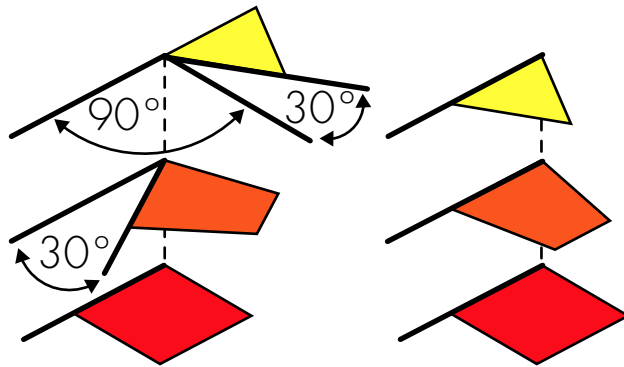
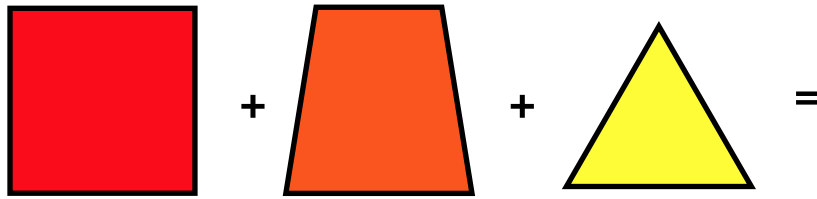
Colors Generating Form: Red and Yellow and Blue



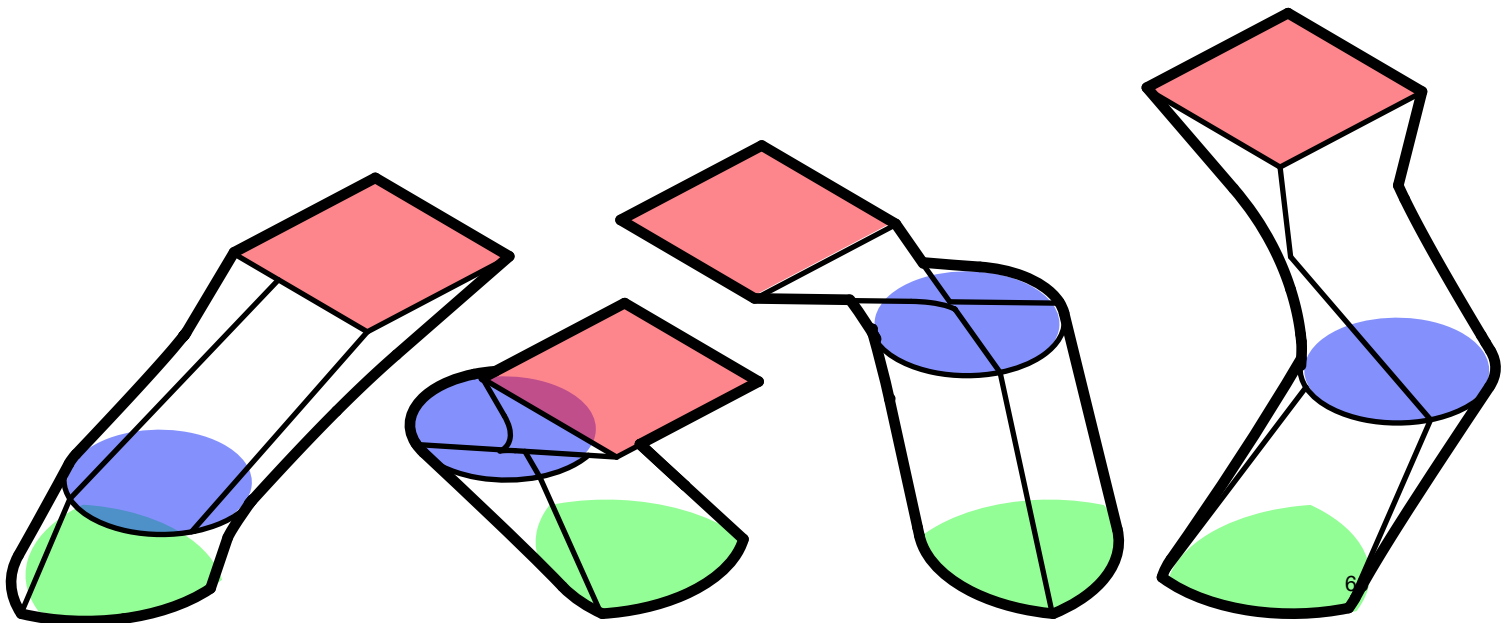
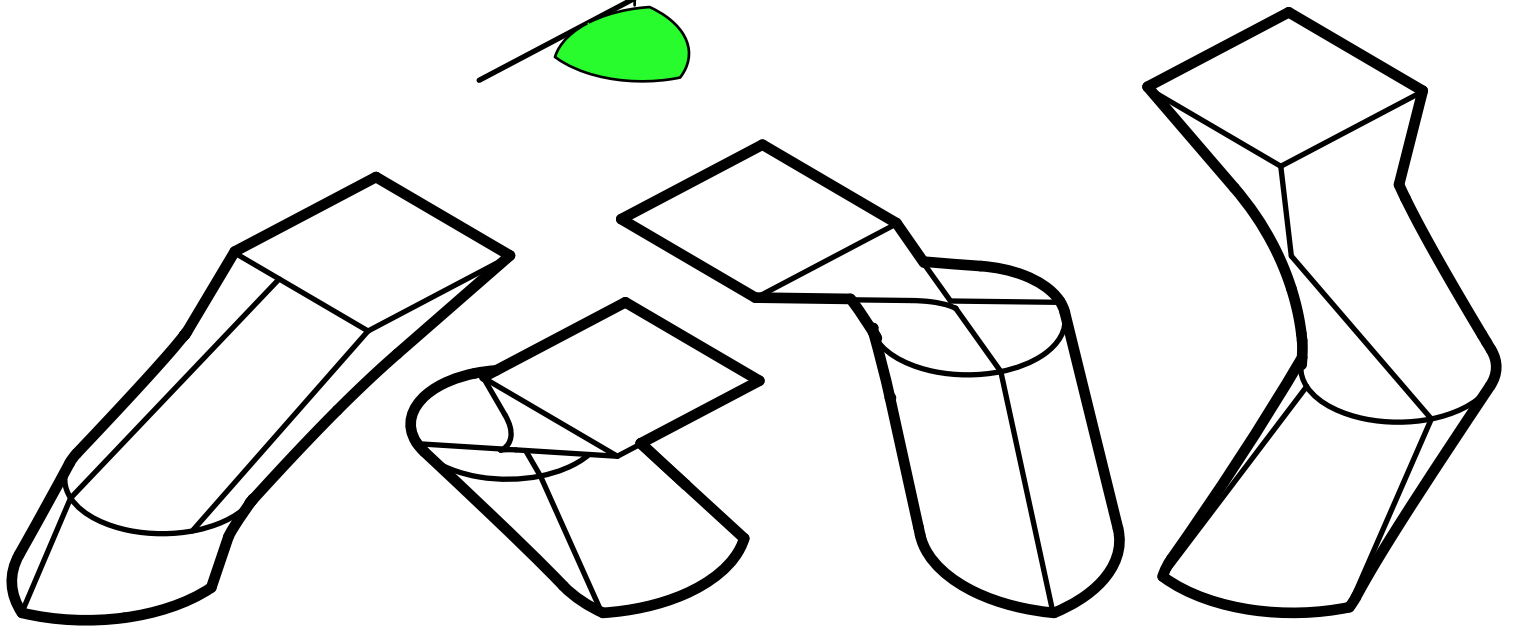
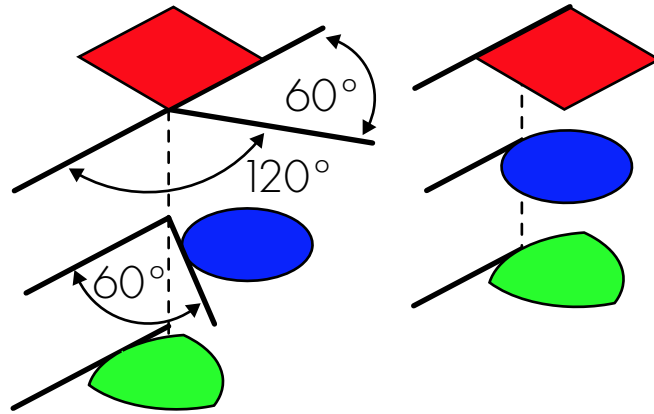
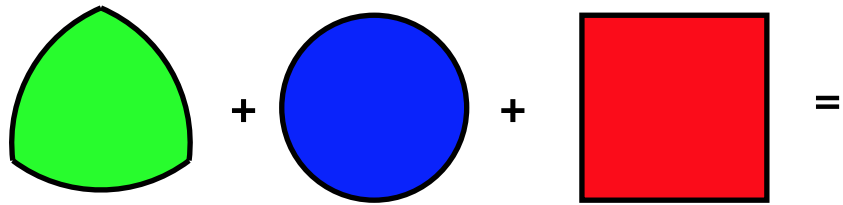
Colors Generating Form: Orange and Green and Purple



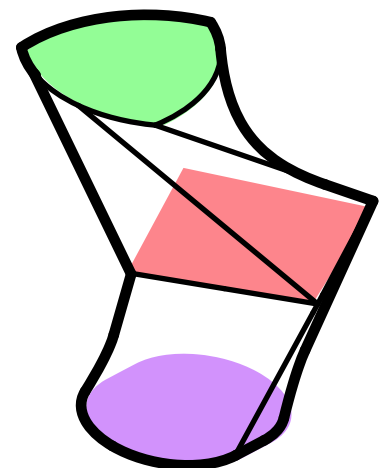
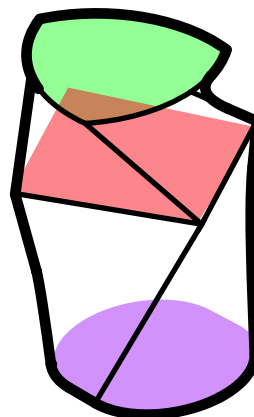
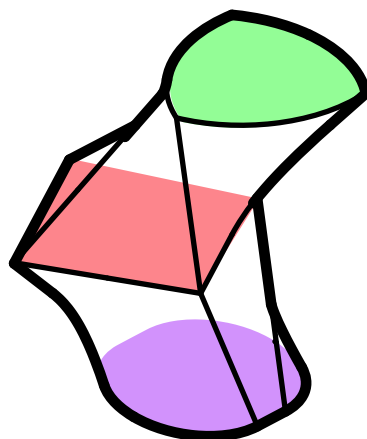
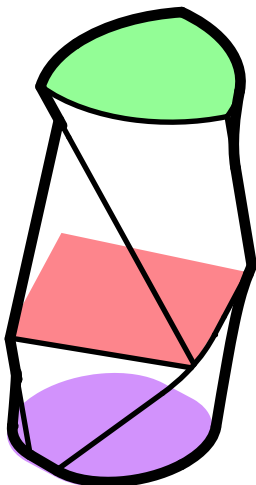
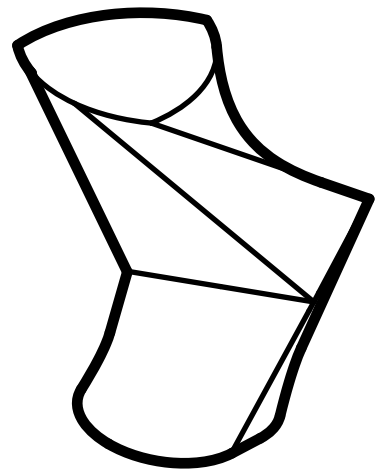
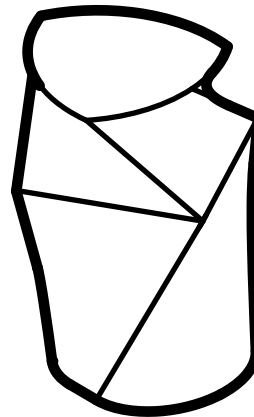
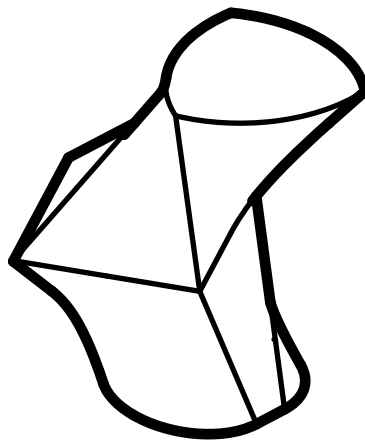
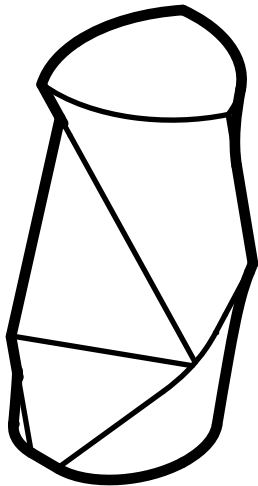
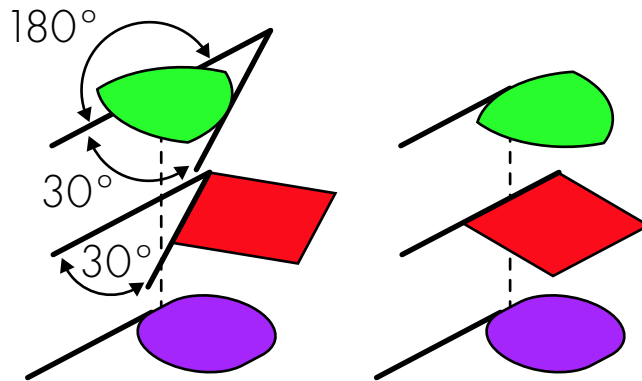
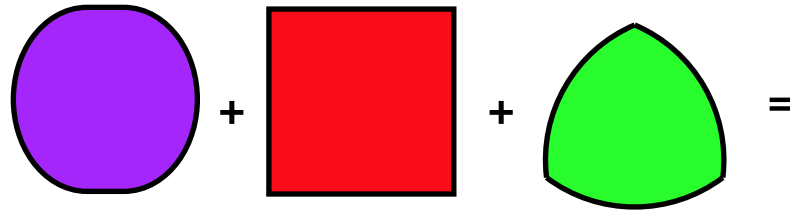
Colors Generating Form: Red and Orange and Yellow



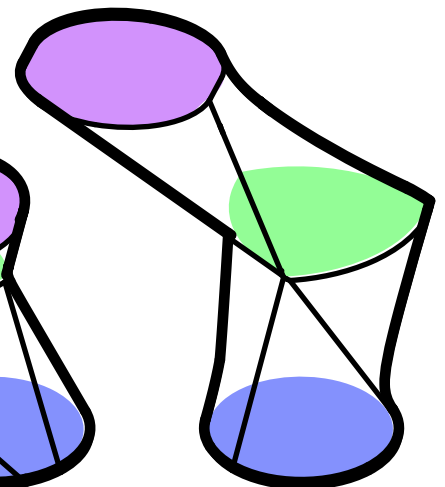
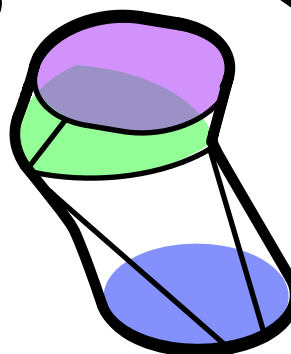
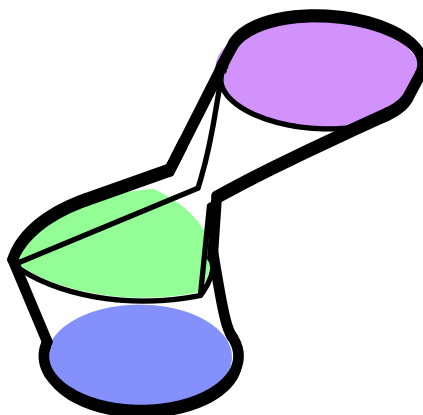
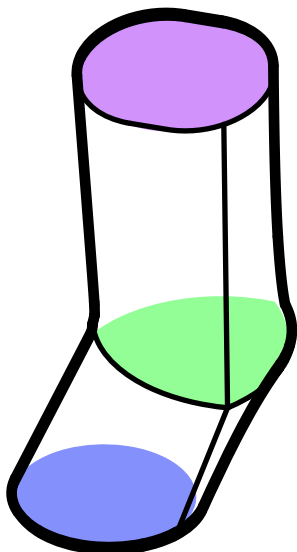
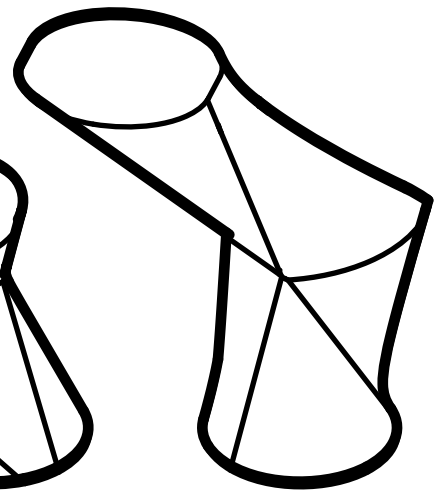
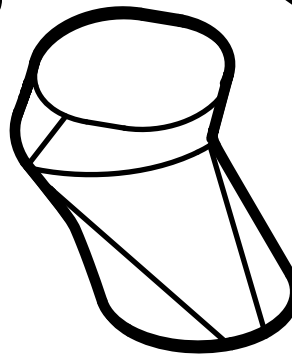
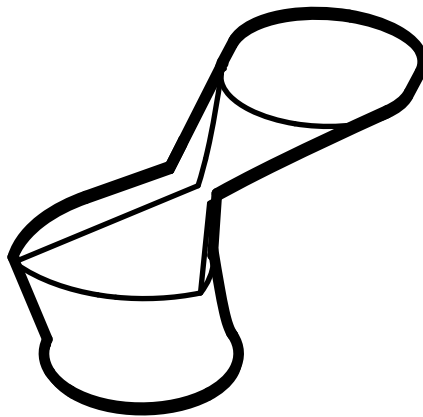
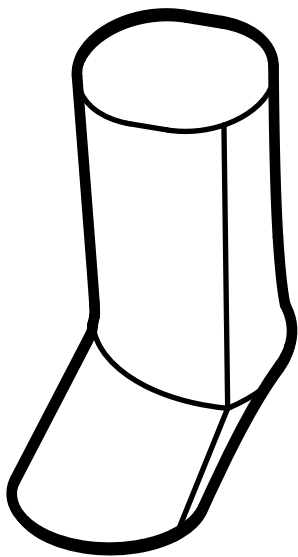
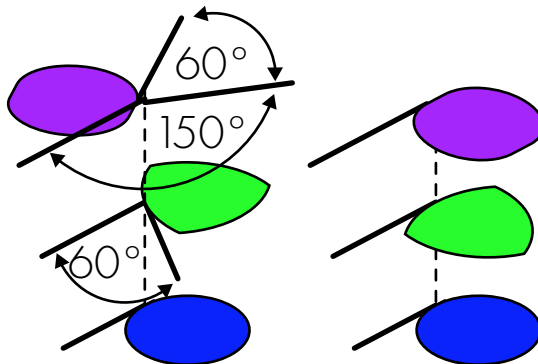
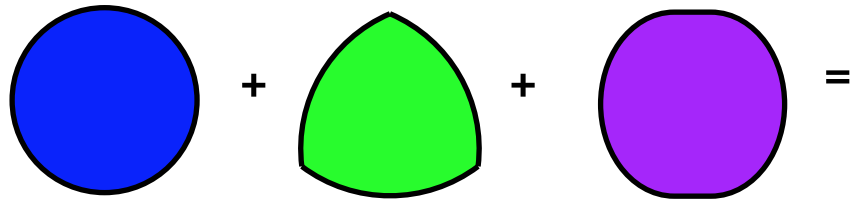
Colors Generating Form: Green and Blue and Red



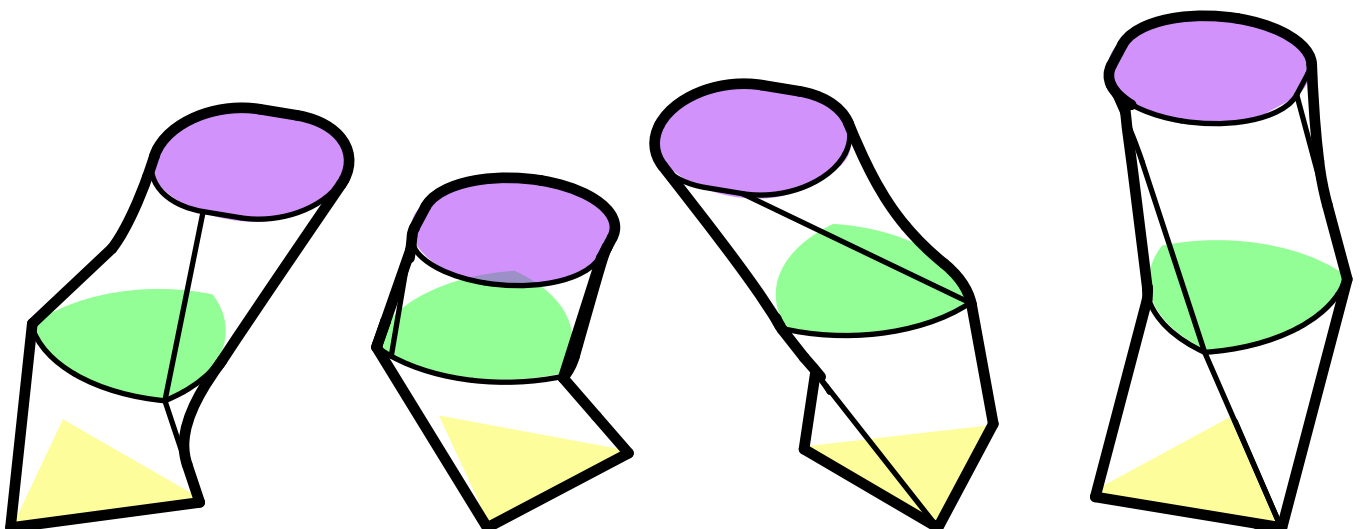
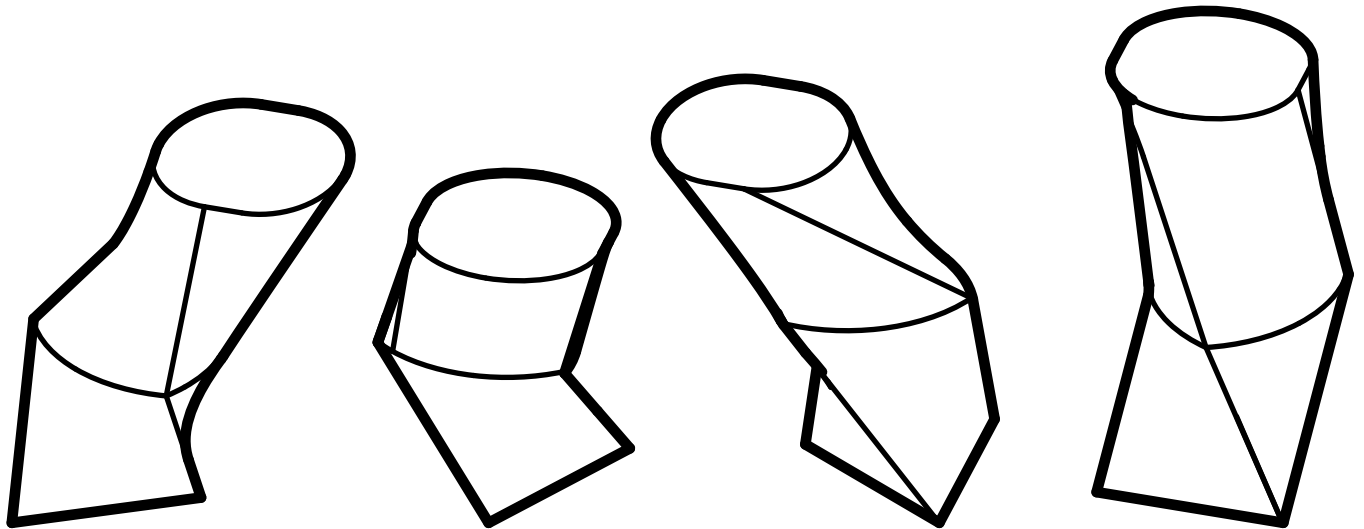
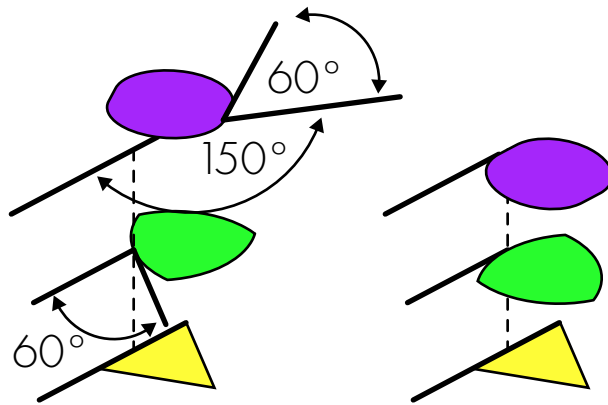
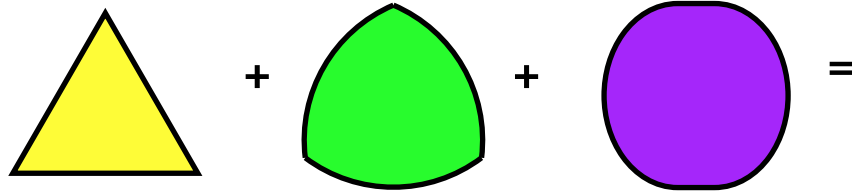
Colors Generating Form: Red and Purple and Green



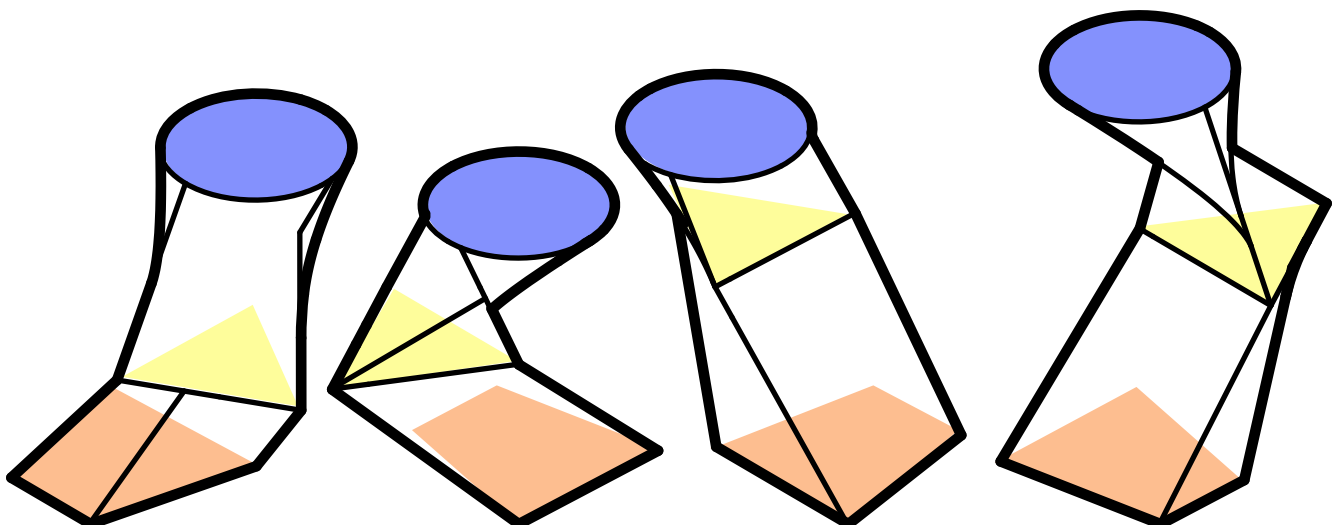
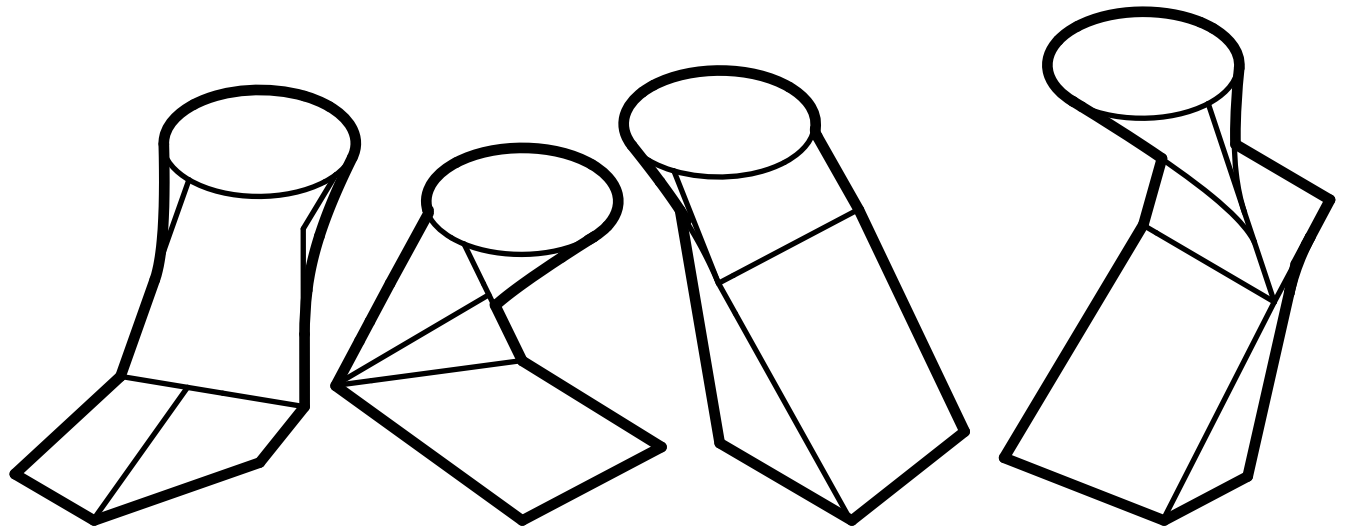
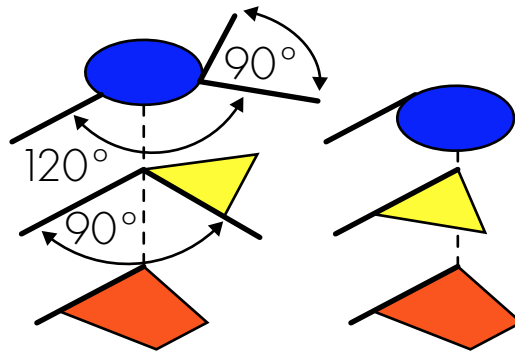
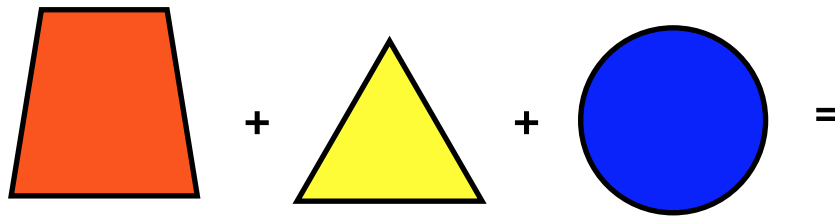
Colors Generating Form: Blue and Green and Purple



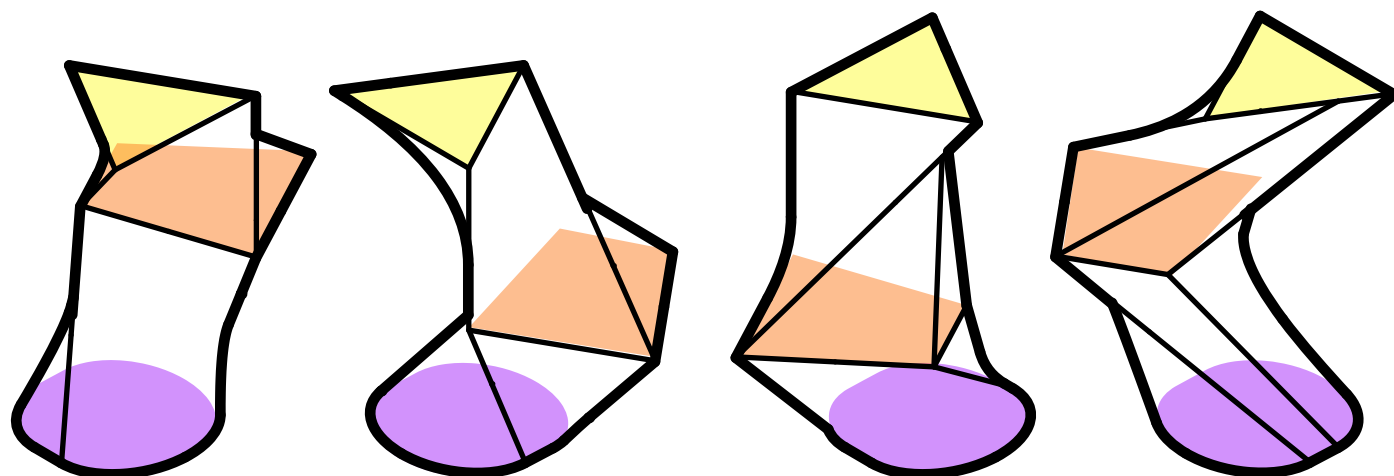
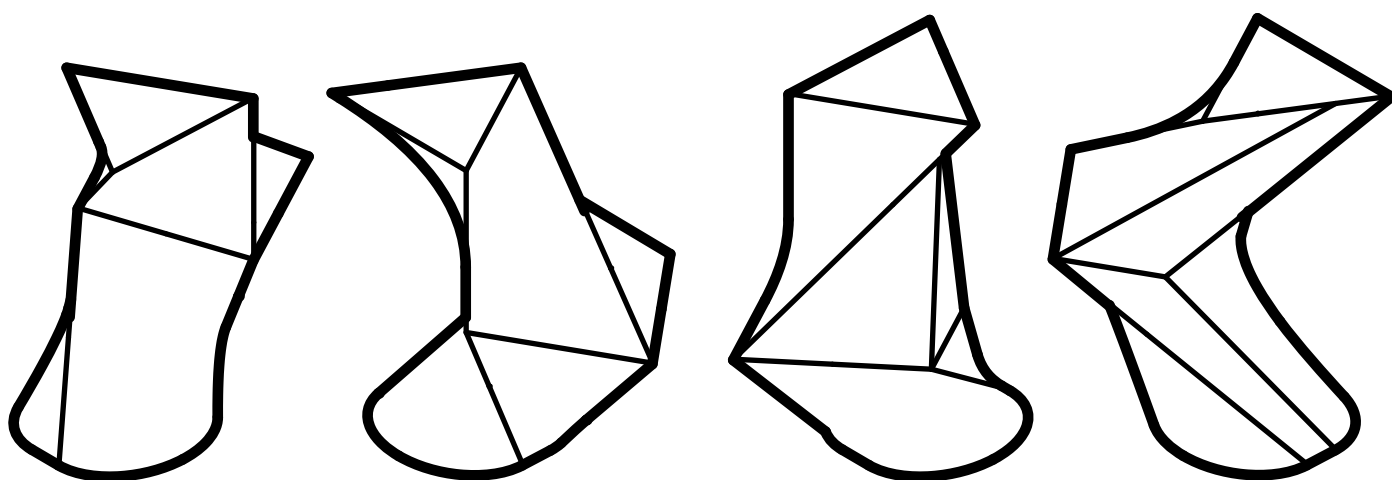
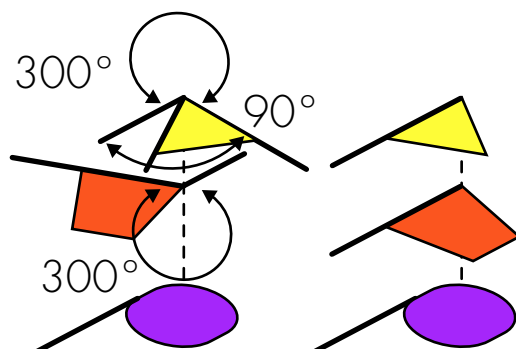
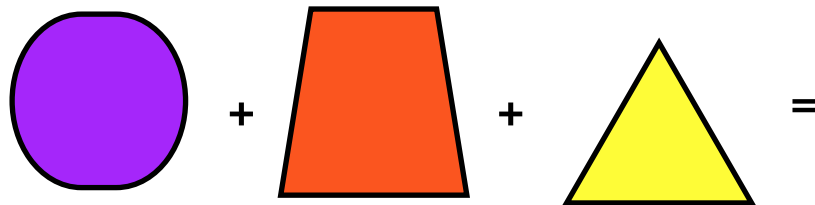
Colors Generating Form: Yellow and Green and Purple



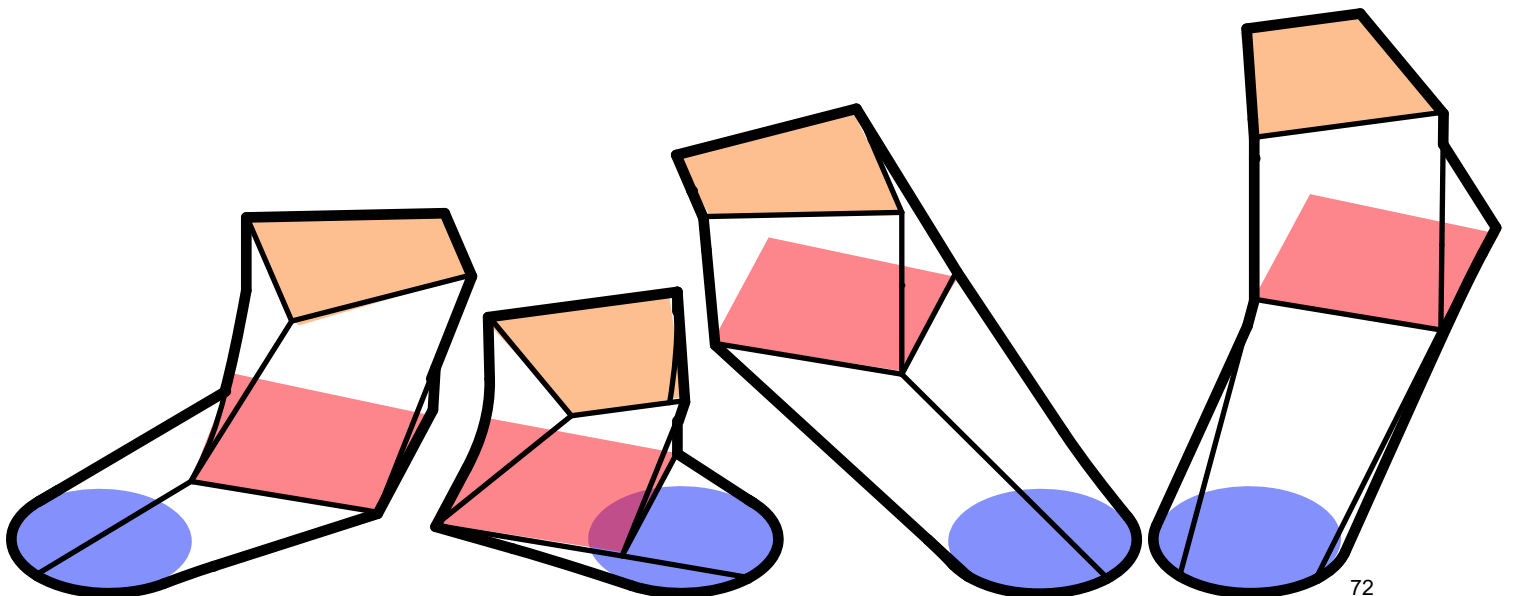
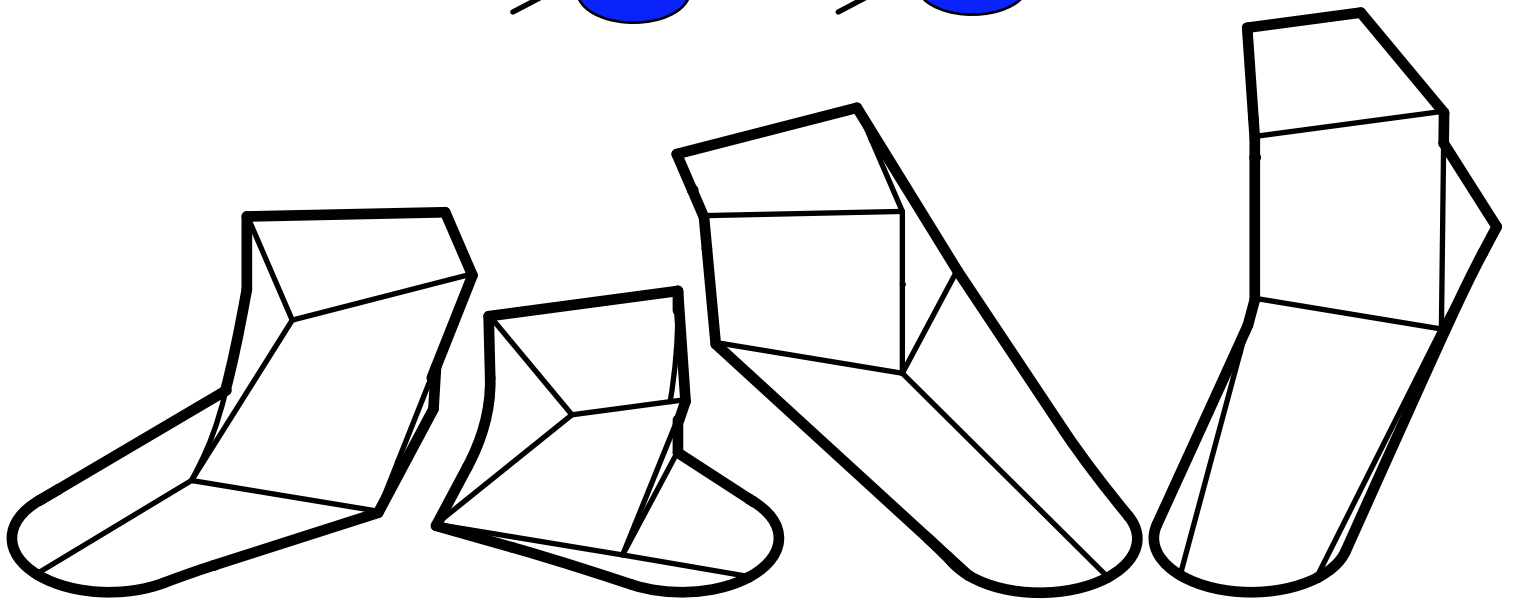
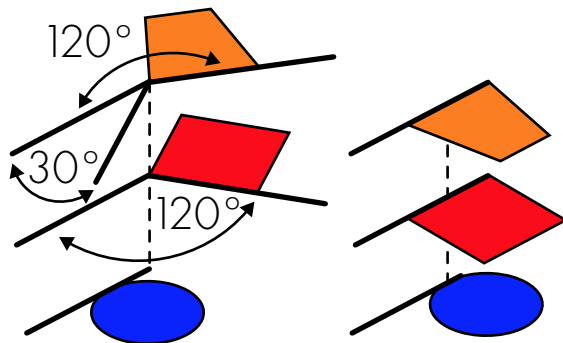
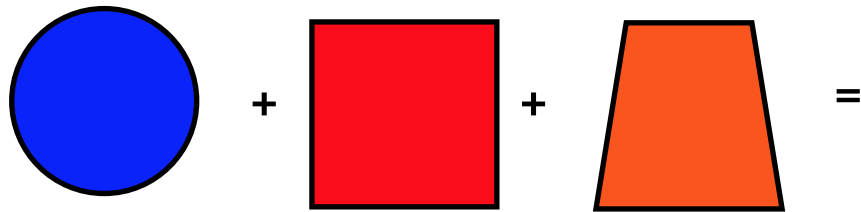
Colors Generating Form: Orange and Yellow and Blue



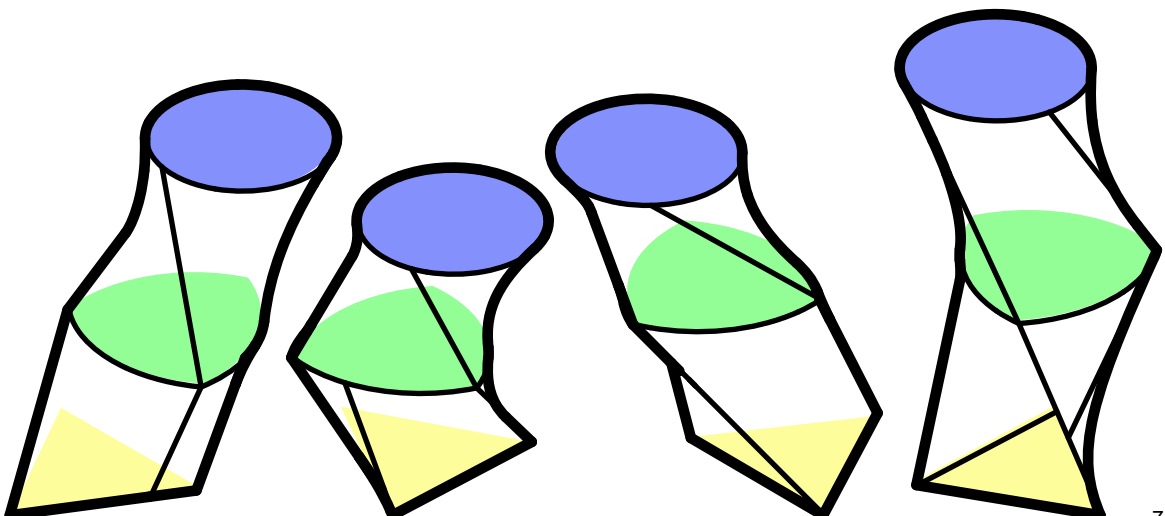
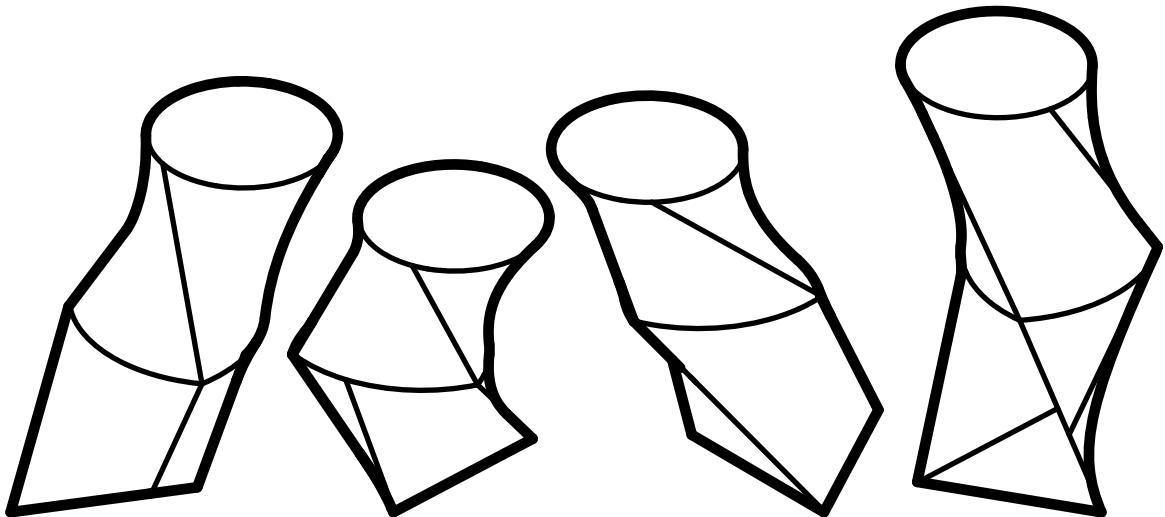
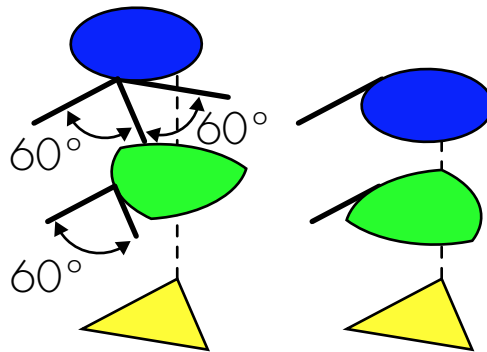
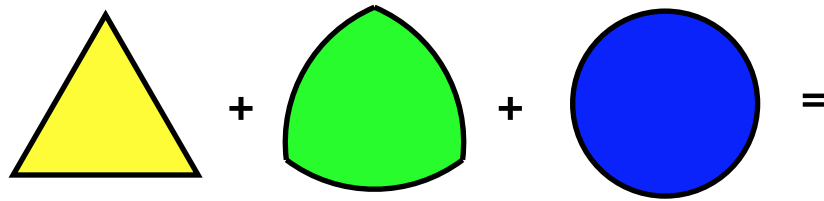
Colors Generating Form: Purple and Orange and Yellow



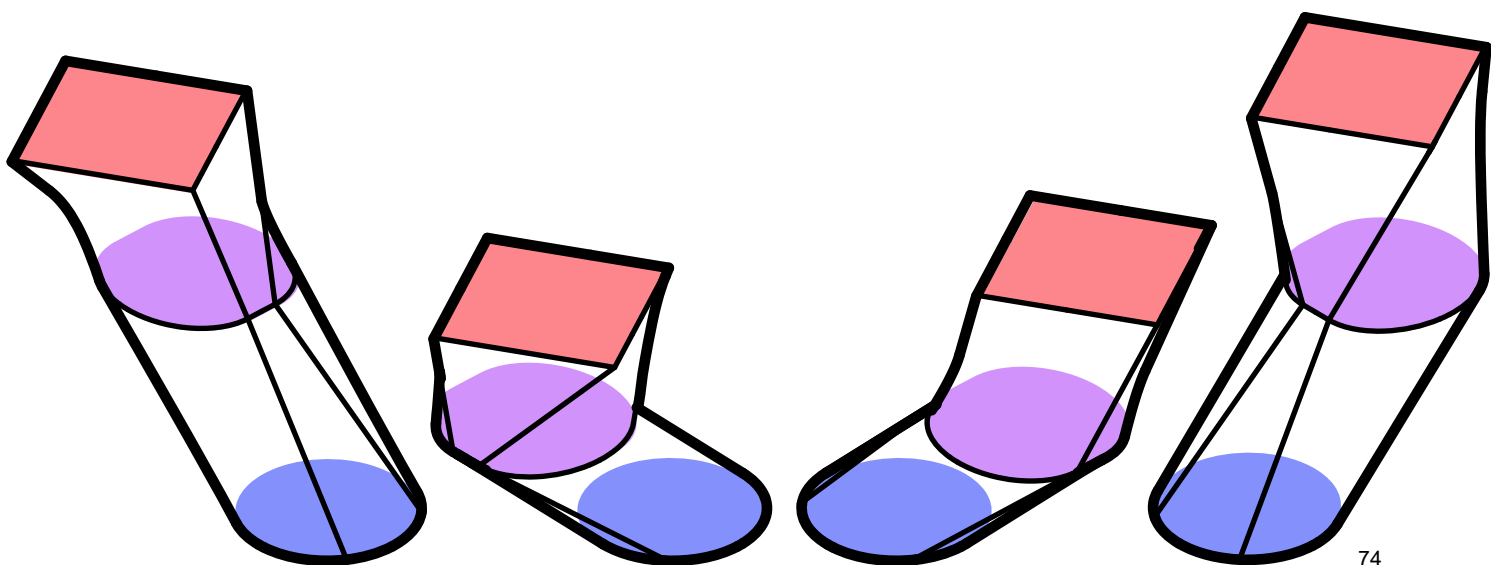
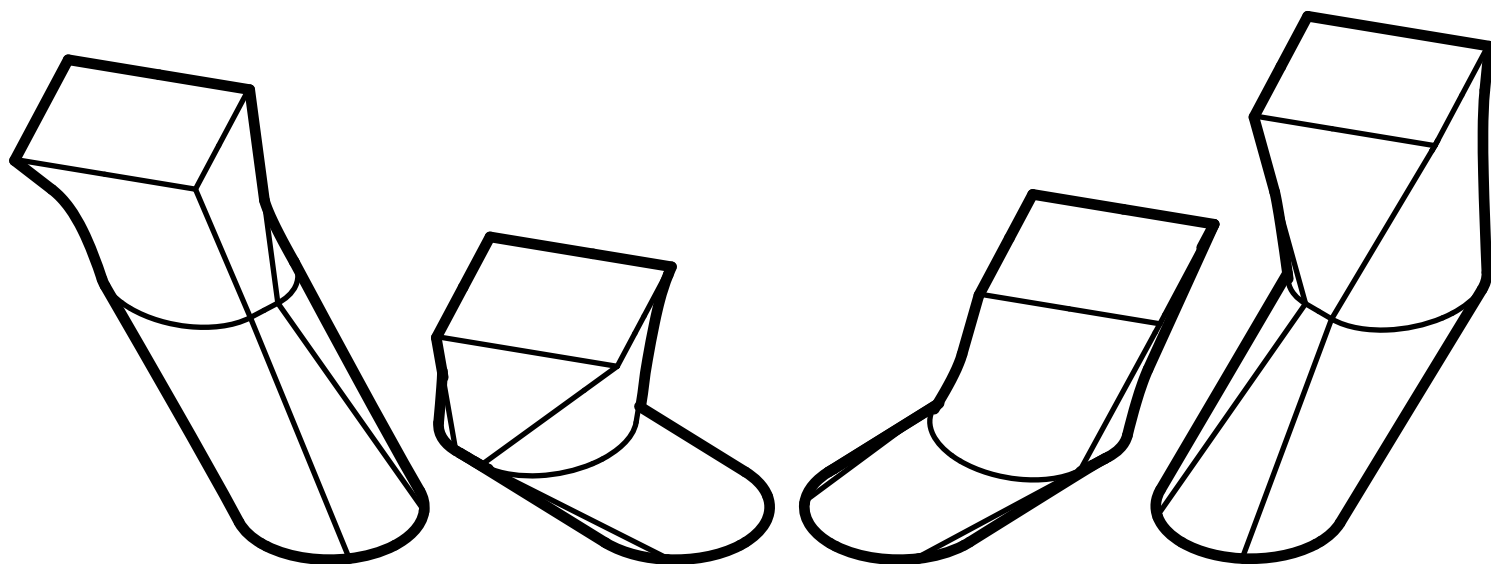
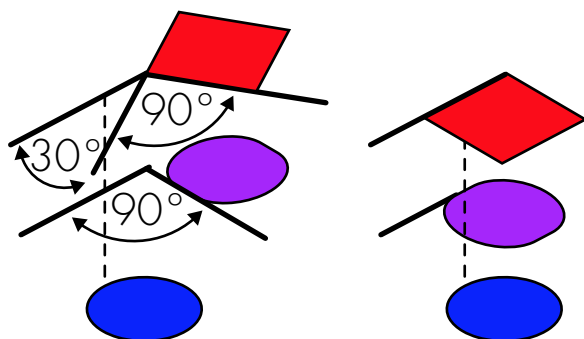
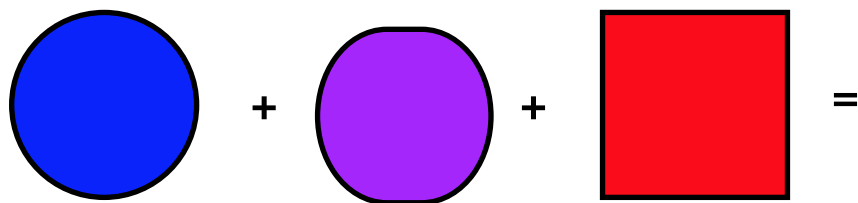
Colors Generating Form: Blue and Red and Orange



Colors Generating Form: Yellow and Green and Blue



Colors Generating Form: Blue and Purple and Red



Results and Outcomes:

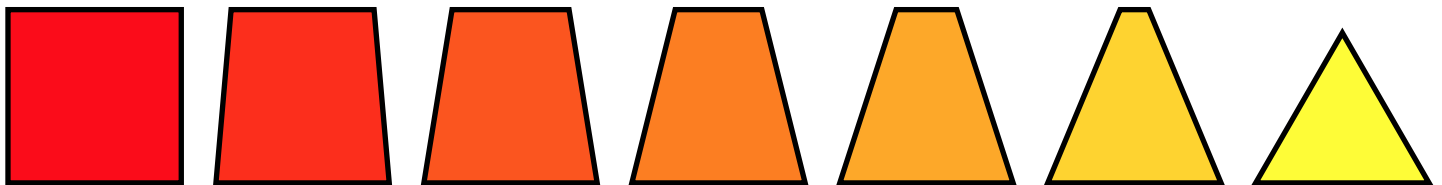
Series 3:

Using Johannes Itten's Fundamental Shape and Color Theory

+

Color Mixing Theory

Different Shapes Formed by Expanding the Hue Color Wheel Using Itten's Color Theory



Red

Red-
Orange

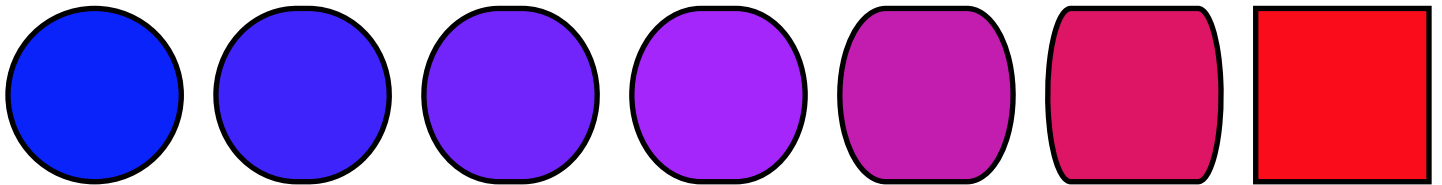
Orange-
Red

Orange

Orange-
Yellow

Yellow-
Orange

Yellow



Blue

Blue-
Purple

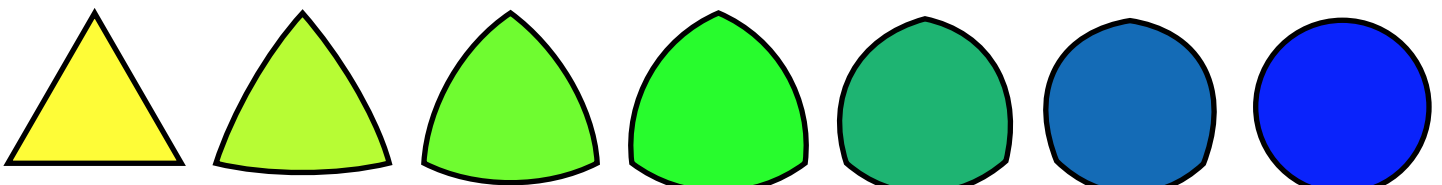
Purple-
Blue

Purple

Purple-
Red

Red-
Purple

Red



Yellow

Yellow-
Green

Green-
Yellow

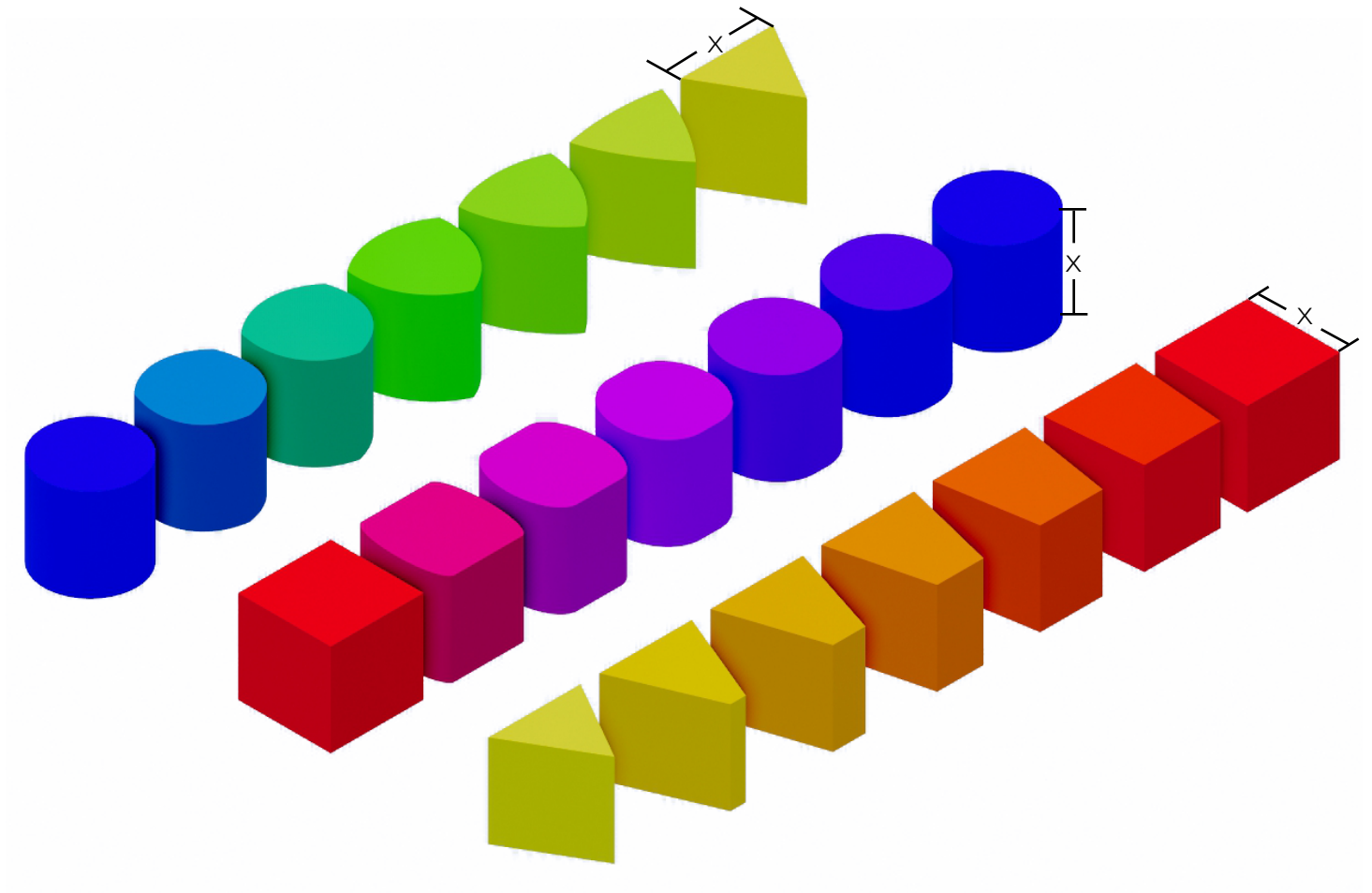
Green

Green-
Blue

Blue-
Green

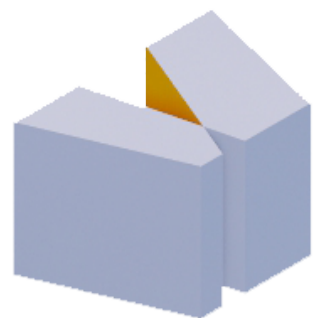
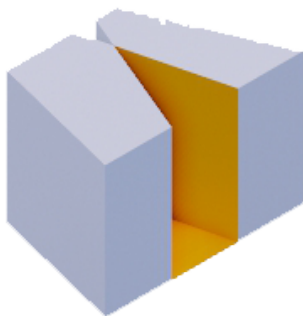
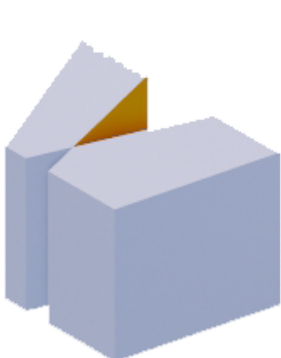
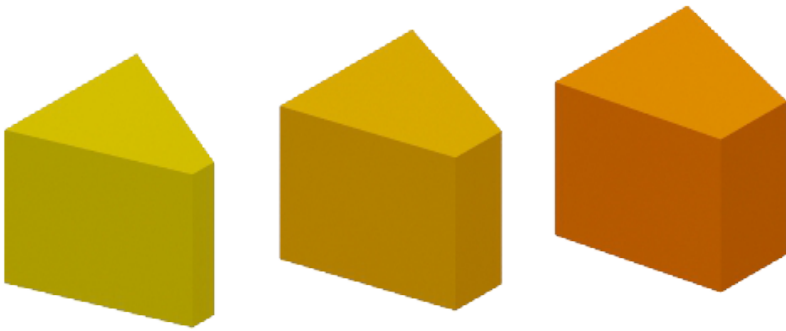
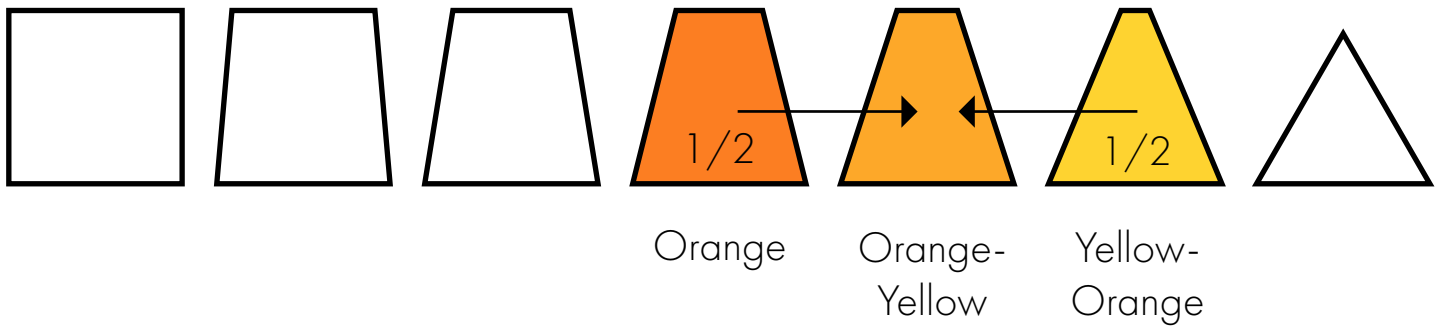
Blue

Series 3 Form Paramters

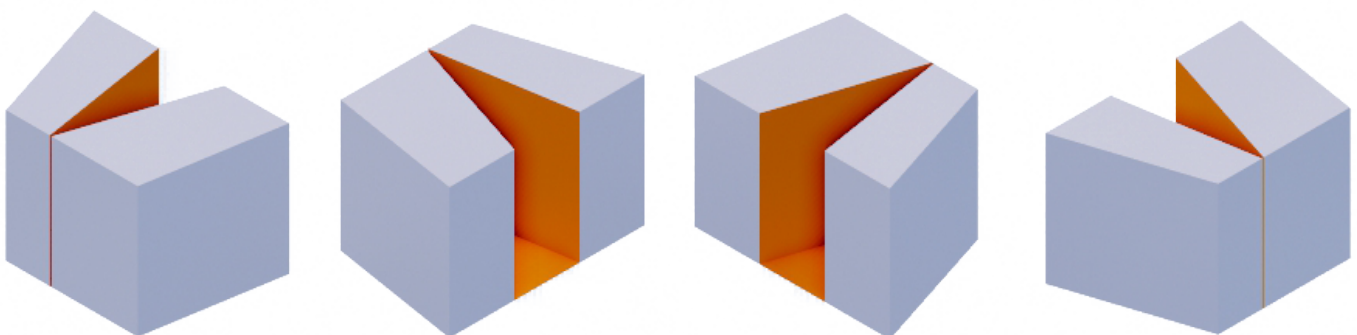
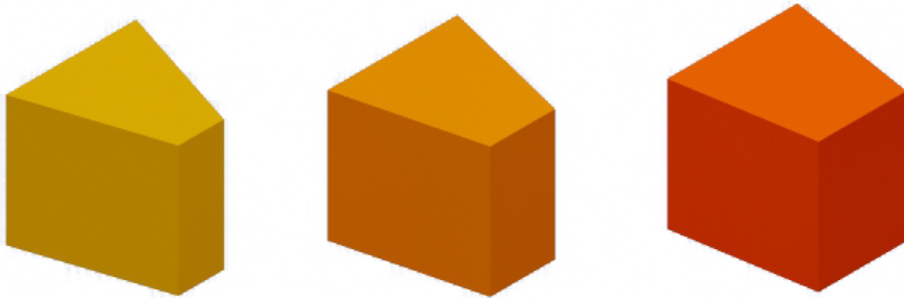
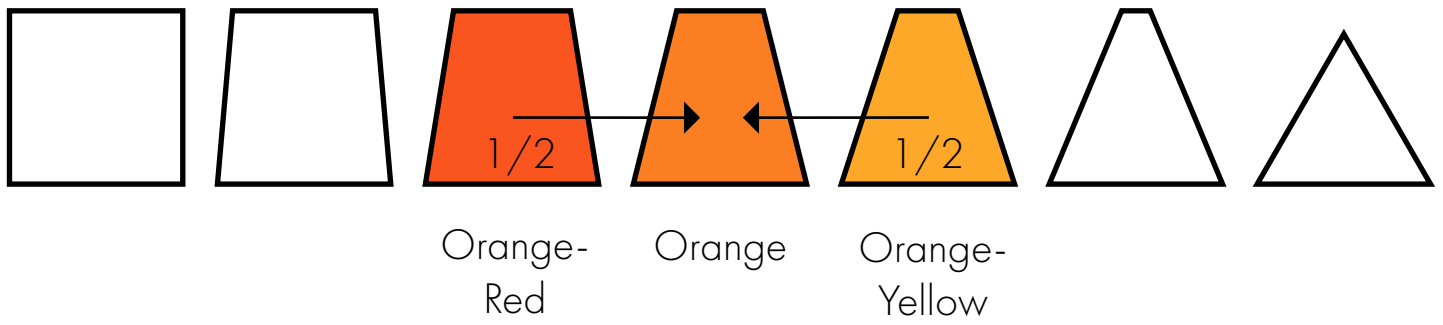


height, width, length = $\leq x$

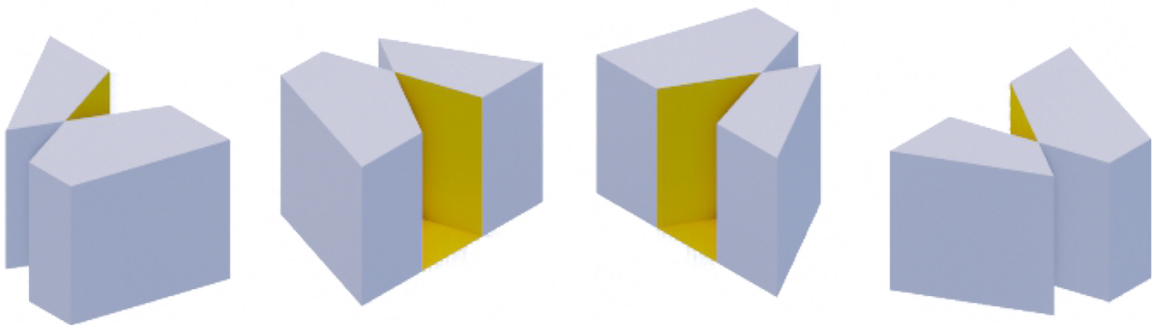
Red to Yellow: 3 Analogous Colors Test 1



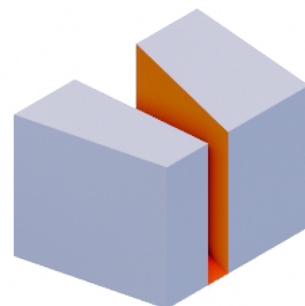
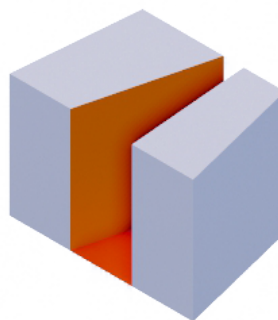
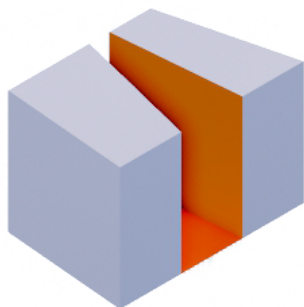
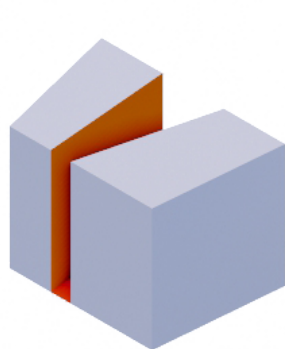
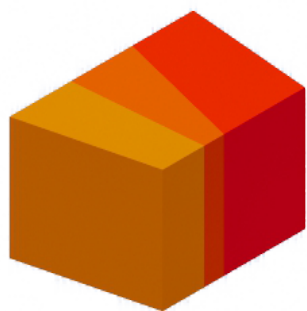
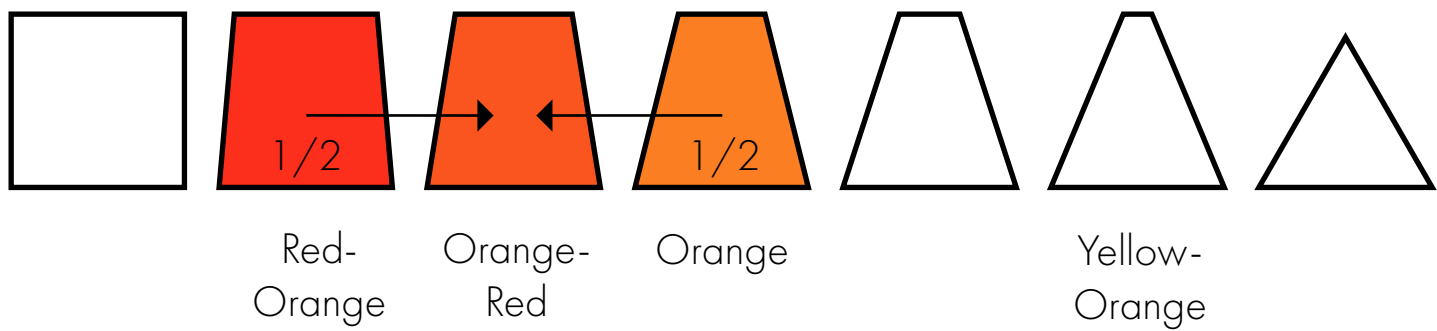
Red to Yellow: 3 Analogous Colors Test 2



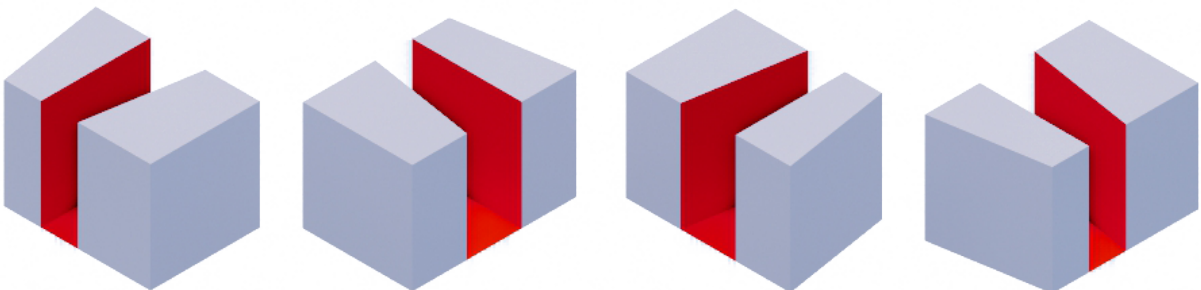
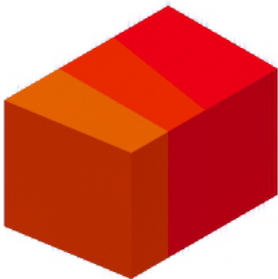
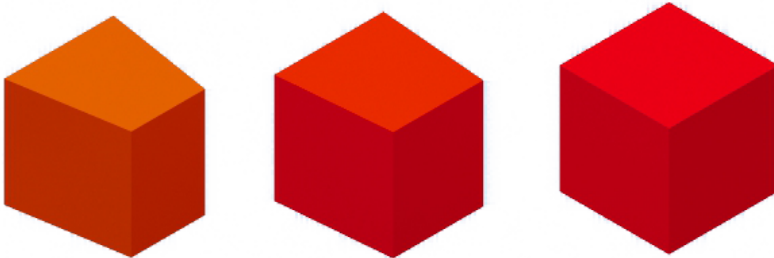
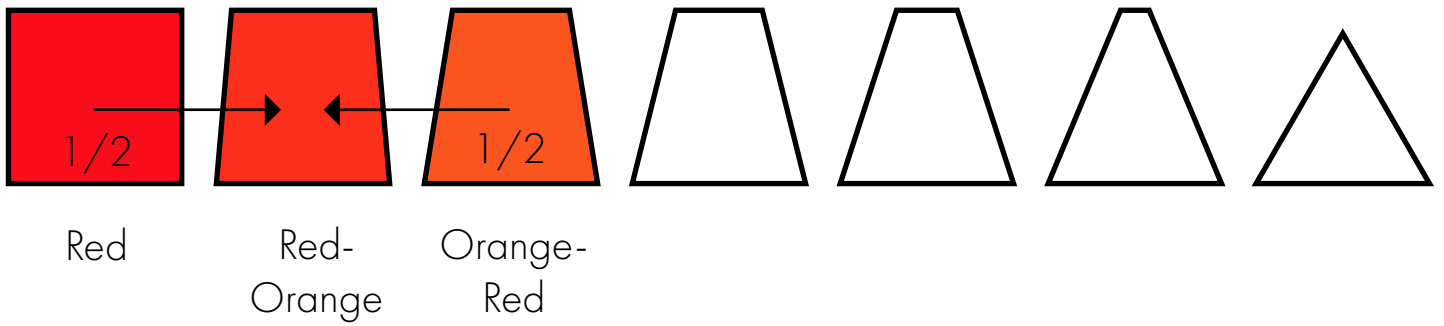
Red to Yellow: 3 Analogous Colors Test 3



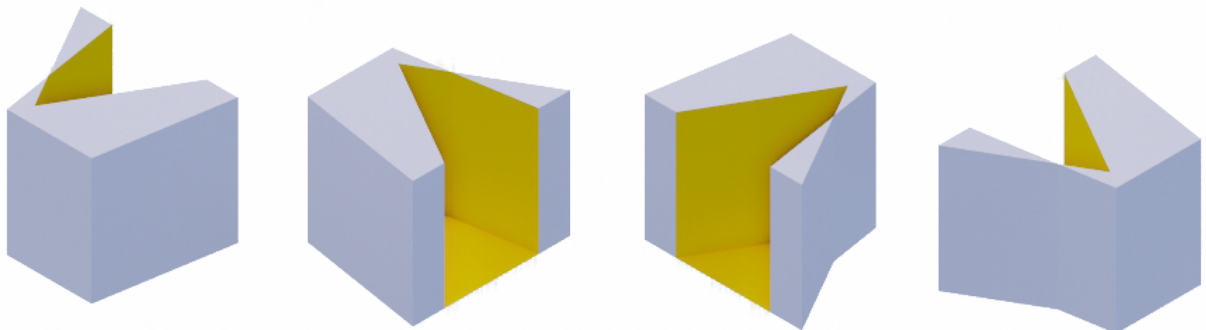
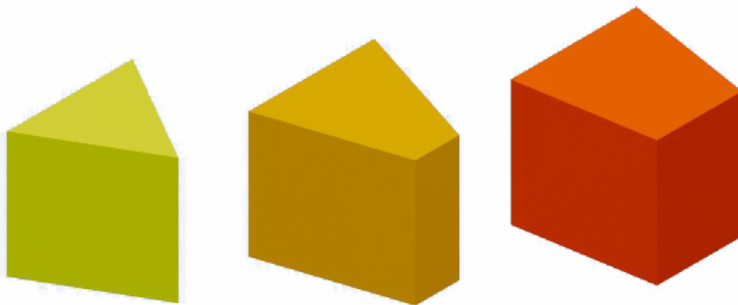
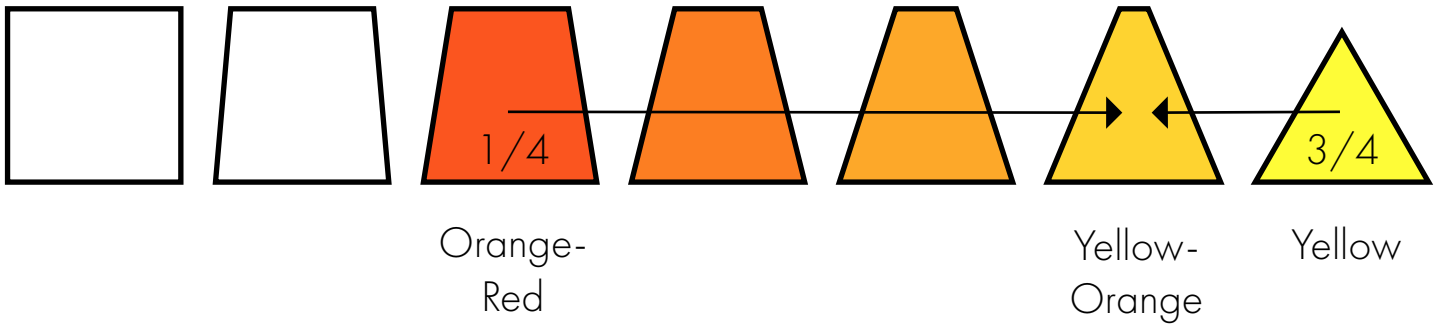
Red to Yellow: 3 Analogous Colors Test 4



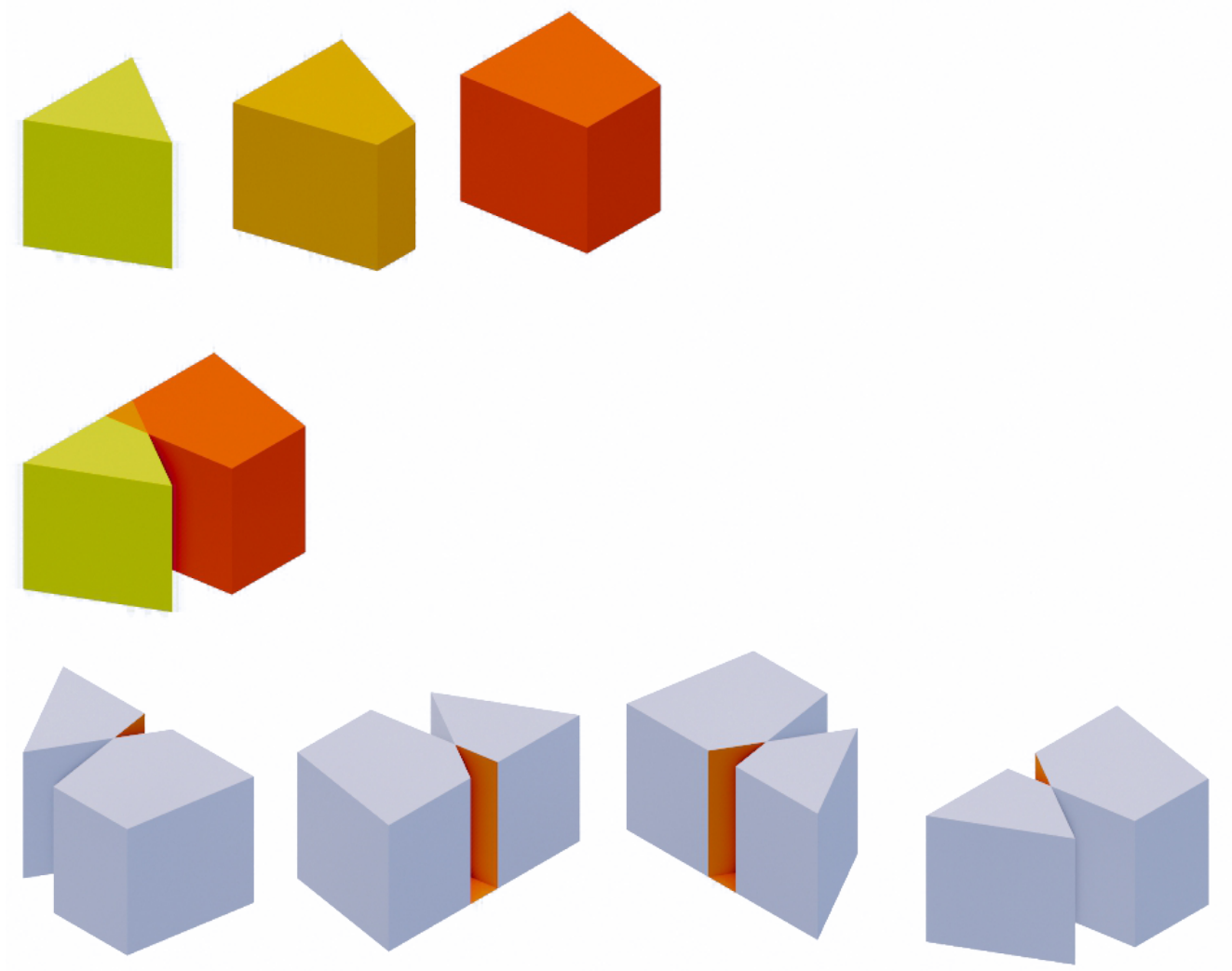
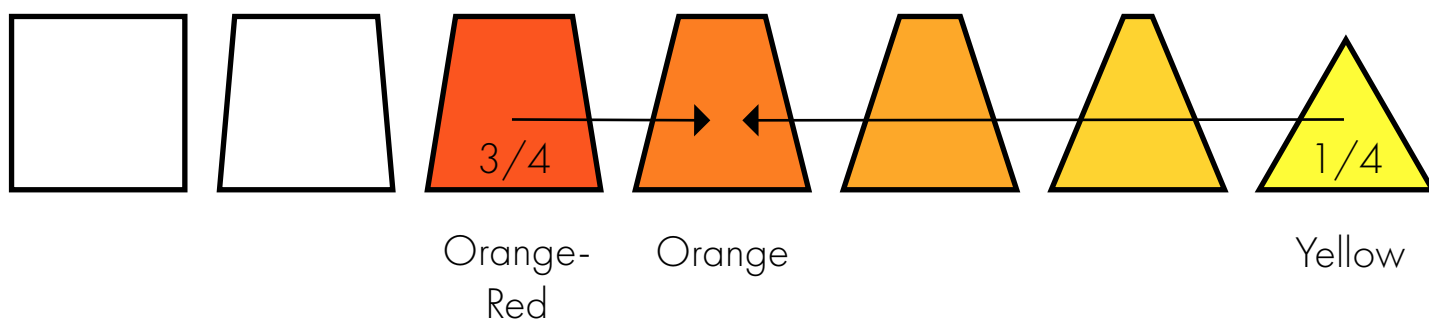
Red to Yellow: 3 Analogous Colors Test 5



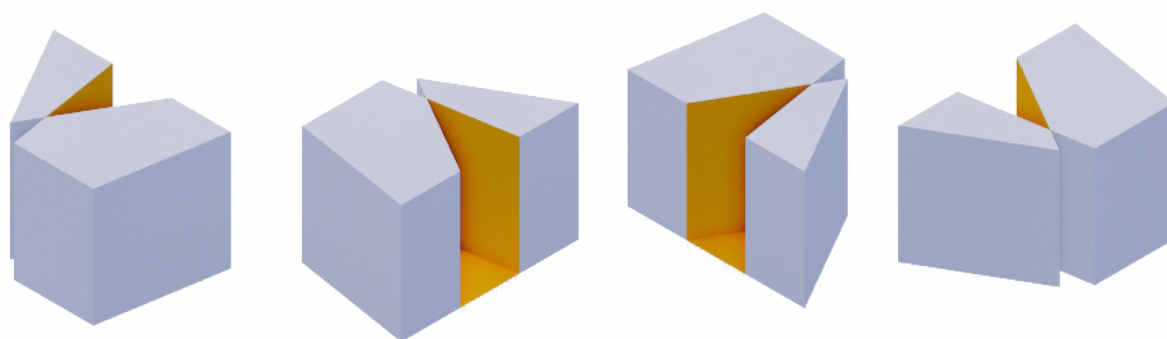
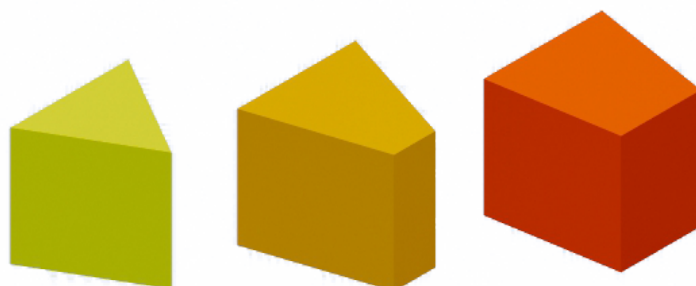
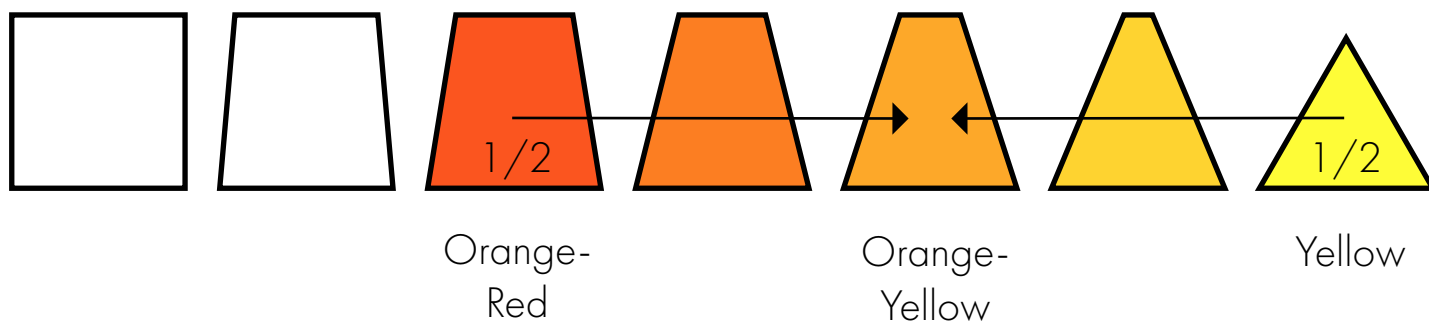
Red to Yellow: 5 Analogous Colors Test 1a



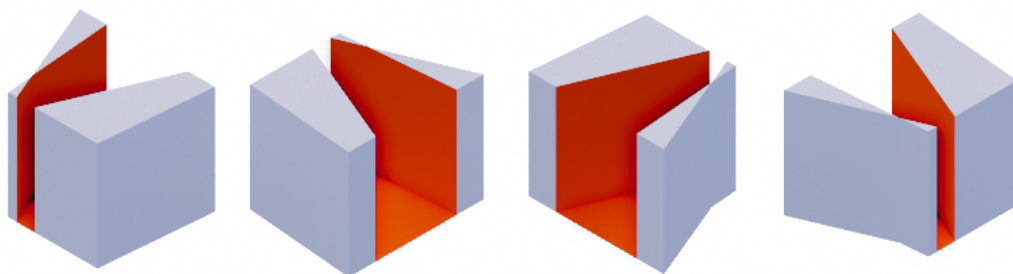
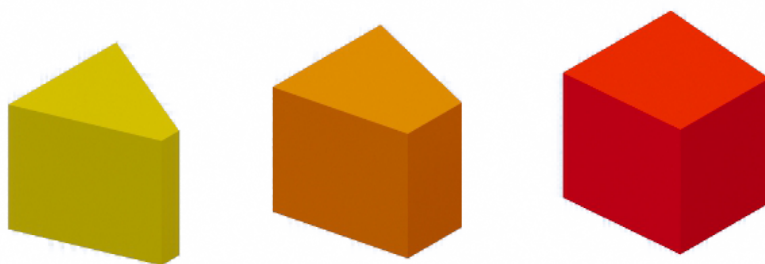
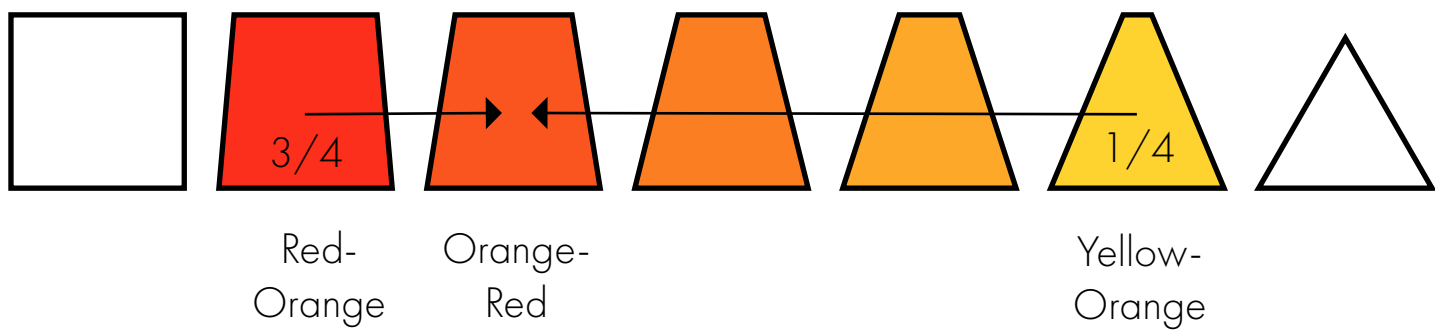
Red to Yellow: 5 Analogous Colors Test 1b



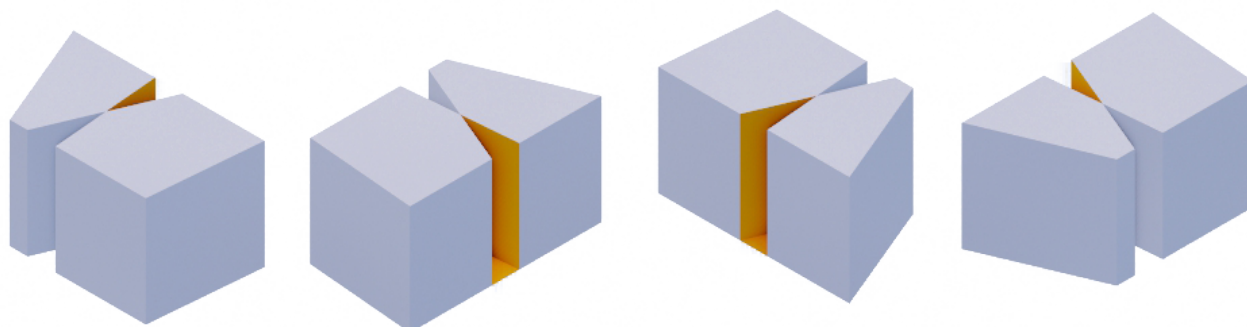
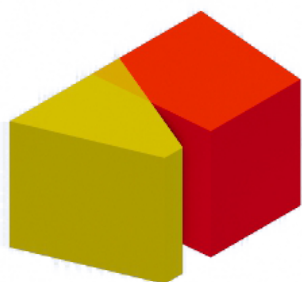
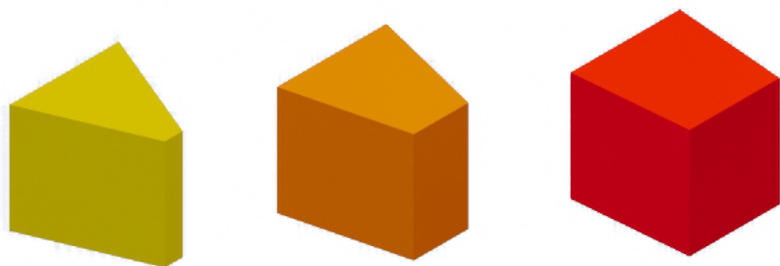
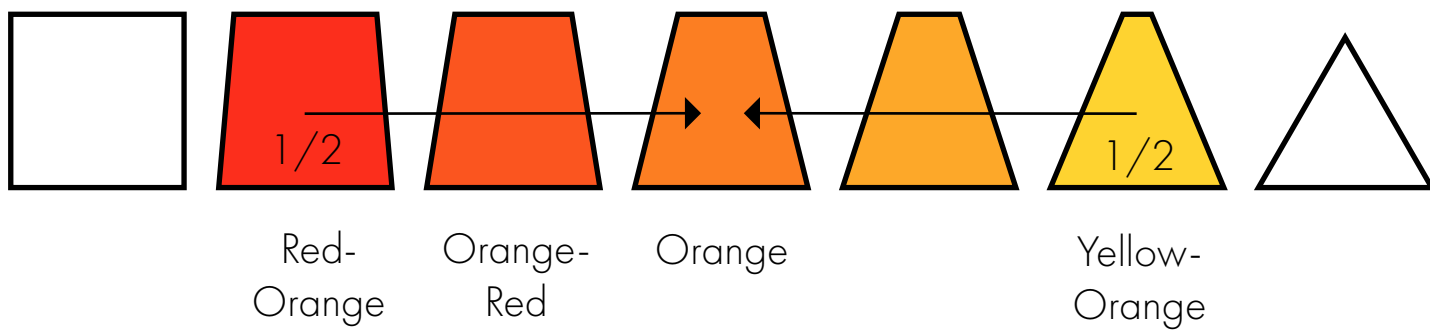
Red to Yellow: 5 Analogous Colors Test 1c



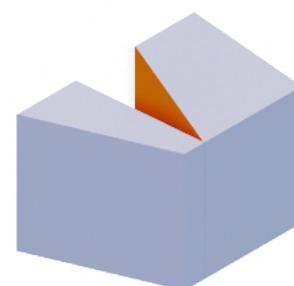
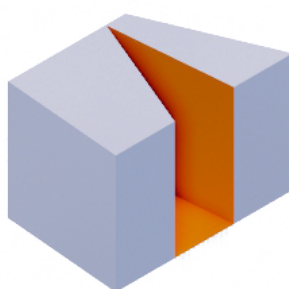
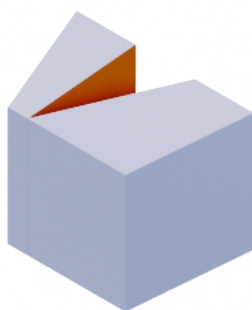
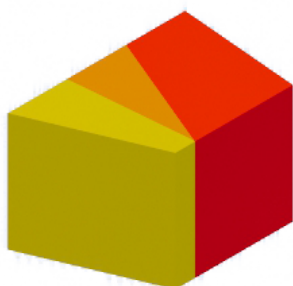
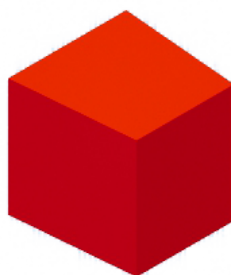
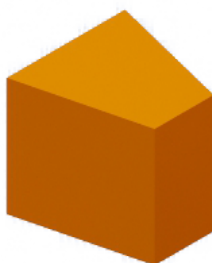
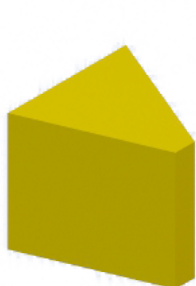
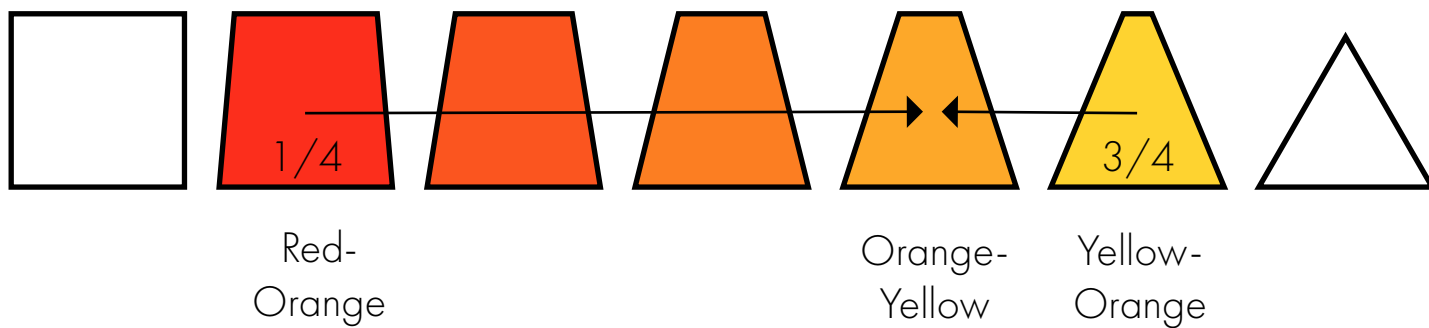
Red to Yellow: 5 Analogous Colors Test 2a



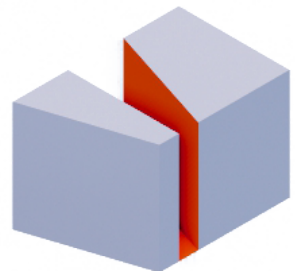
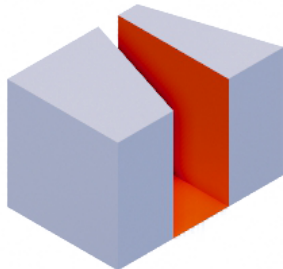
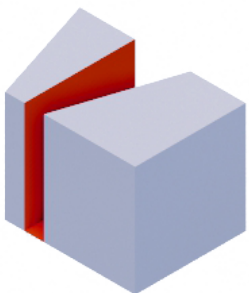
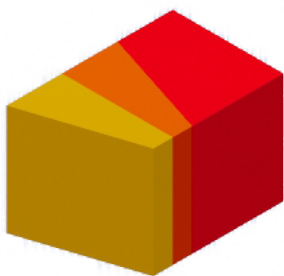
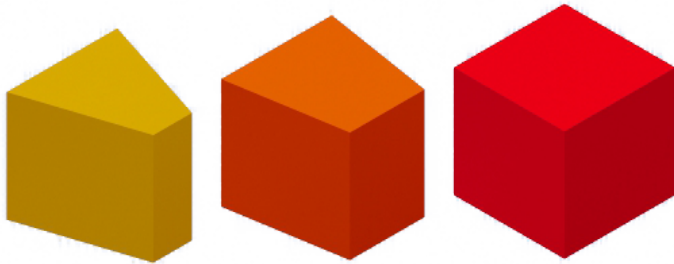
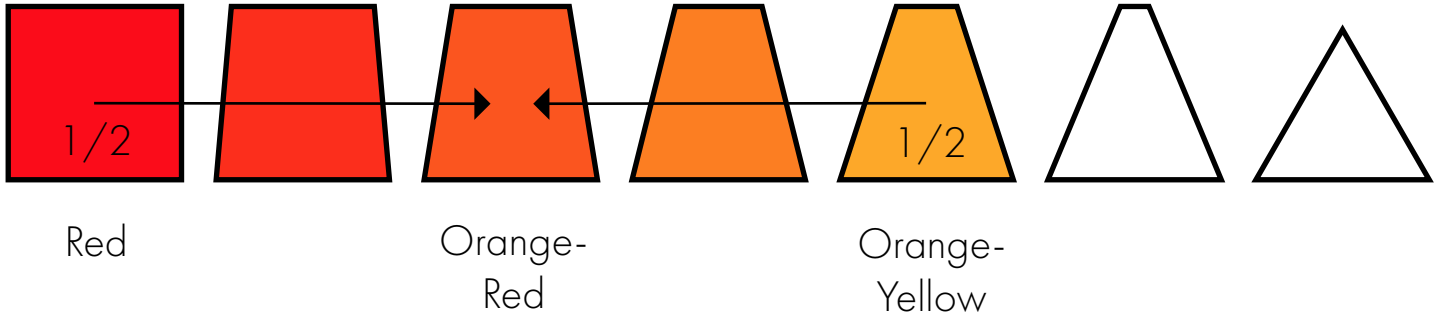
Red to Yellow: 5 Analogous Colors Test 2b



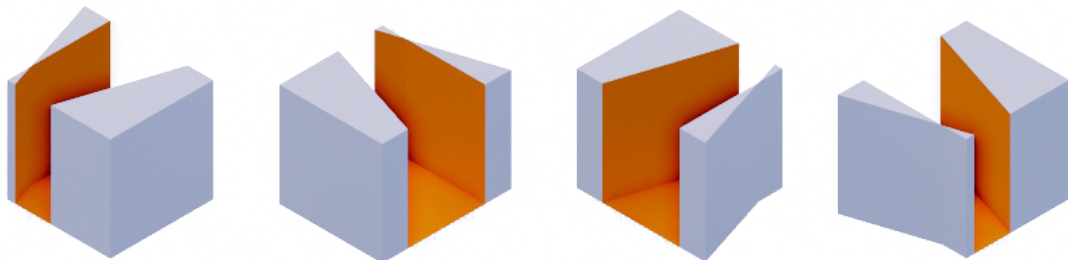
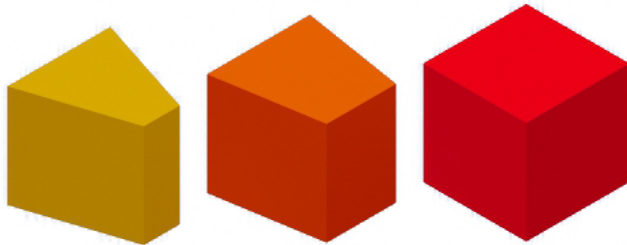
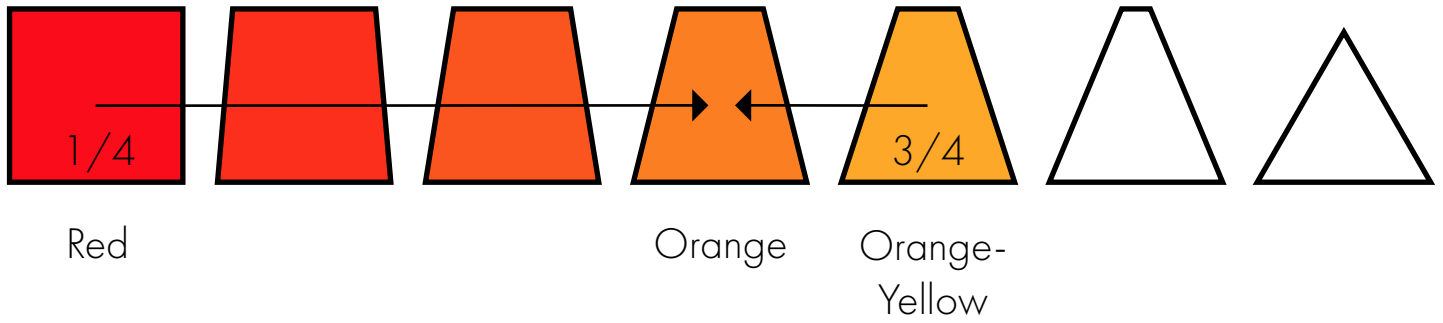
Red to Yellow: 5 Analogous Colors Test 2c



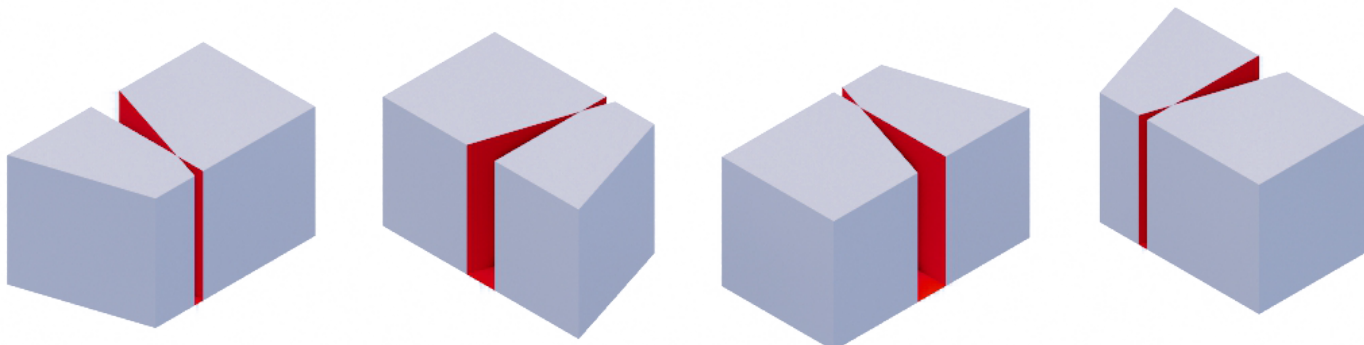
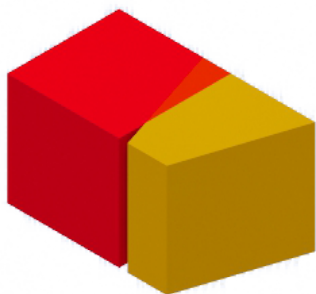
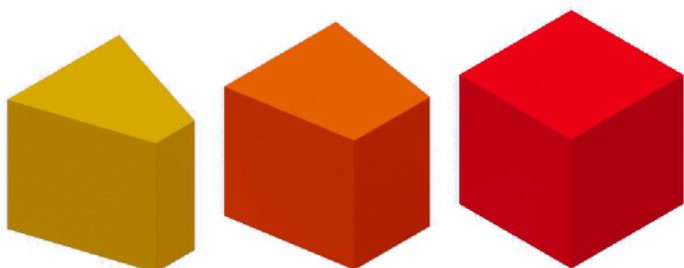
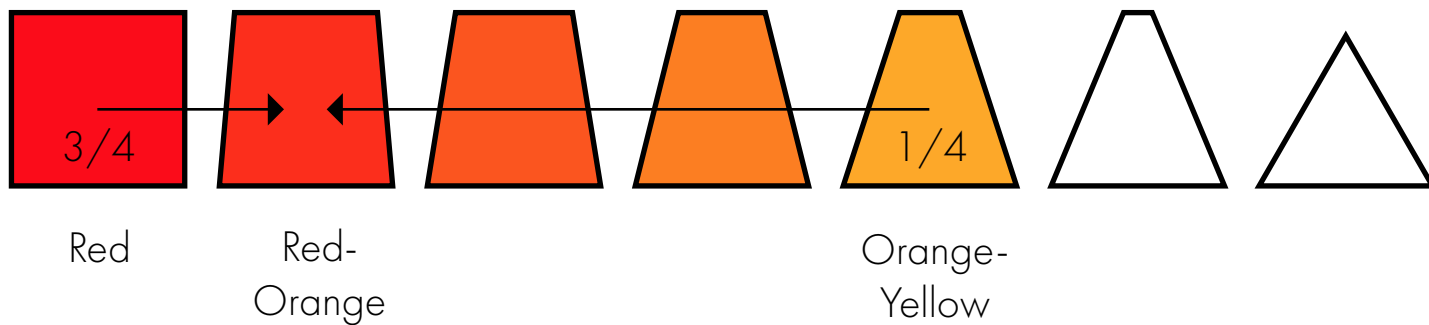
Red to Yellow: 5 Analogous Colors Test 3a



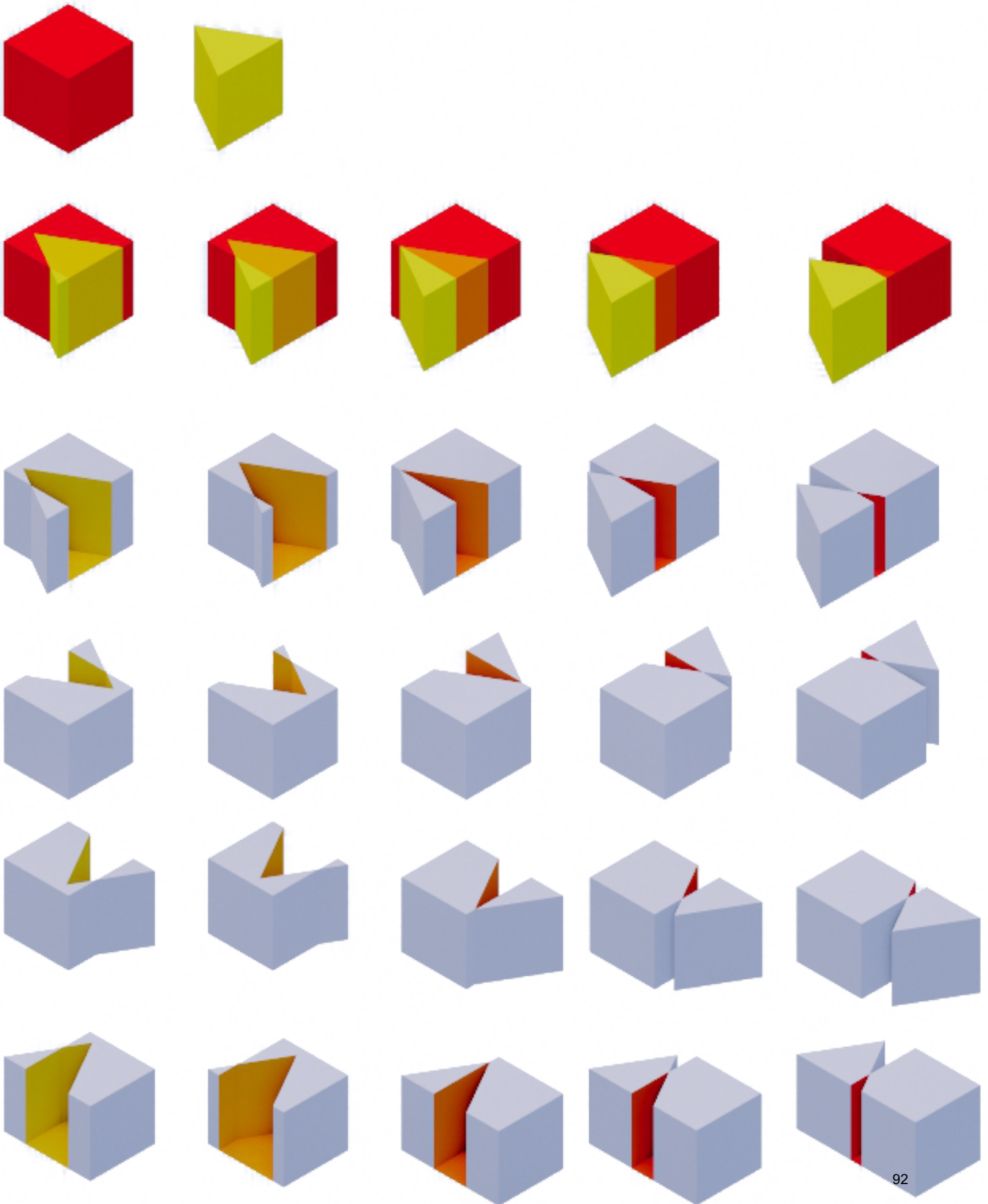
Red to Yellow: 5 Analogous Colors Test 3b



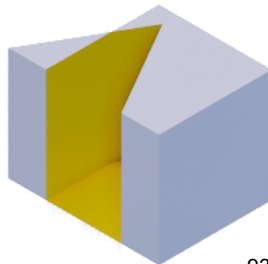
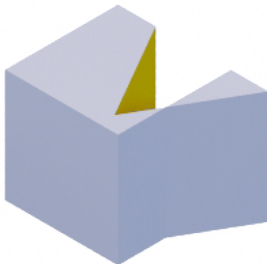
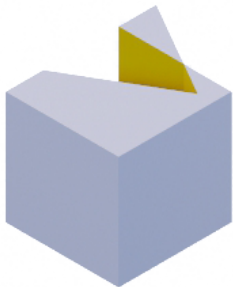
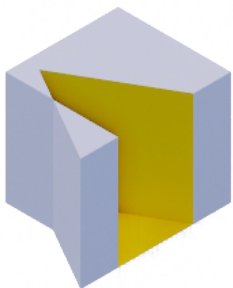
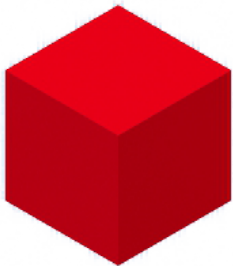
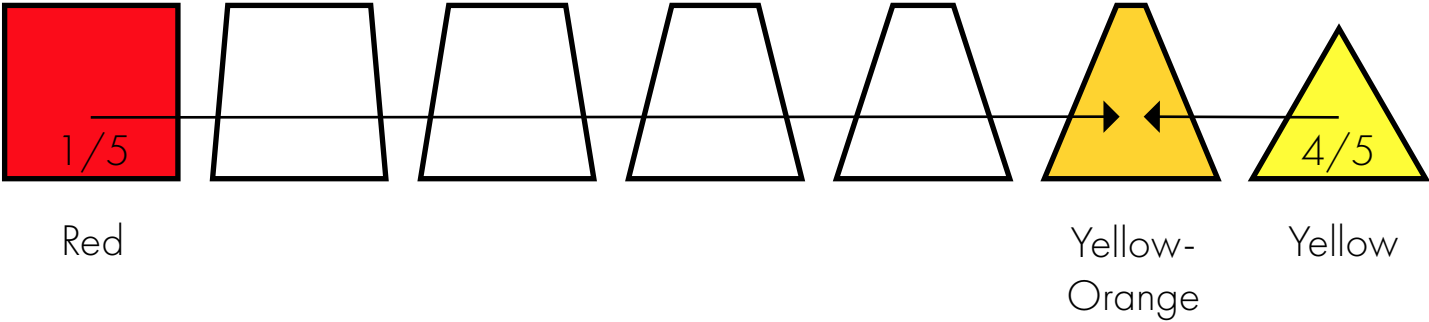
Red to Yellow: 5 Analogous Colors Test 3c



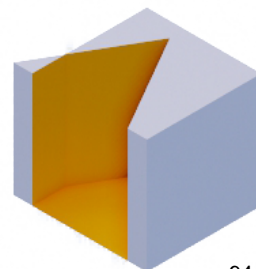
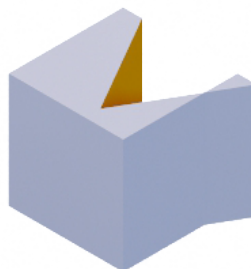
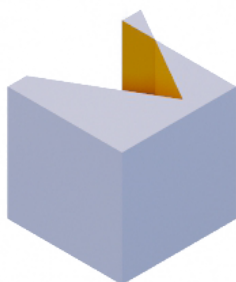
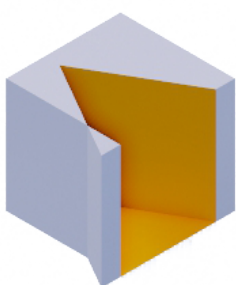
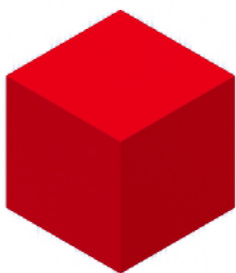
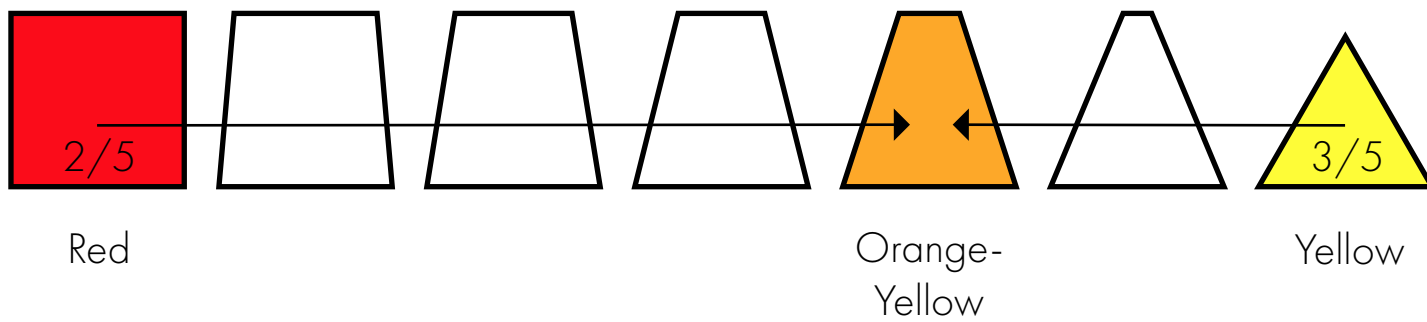
Red to Yellow: Mixing the Primaries All Tests



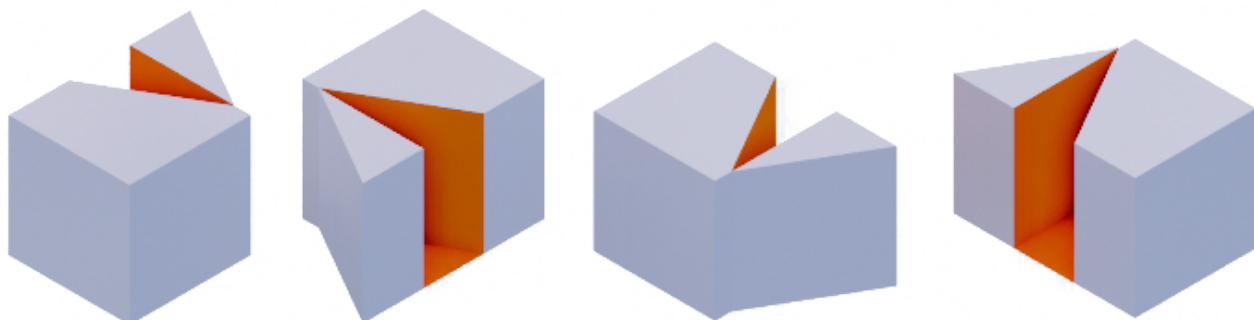
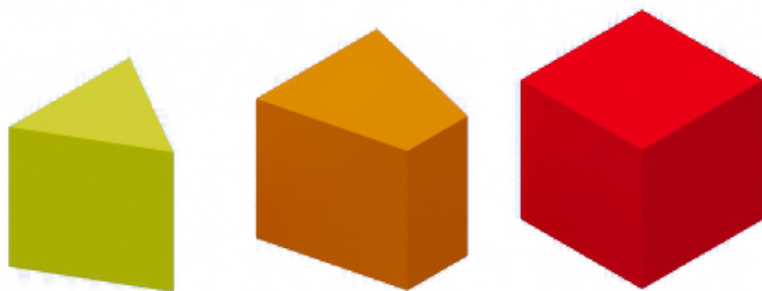
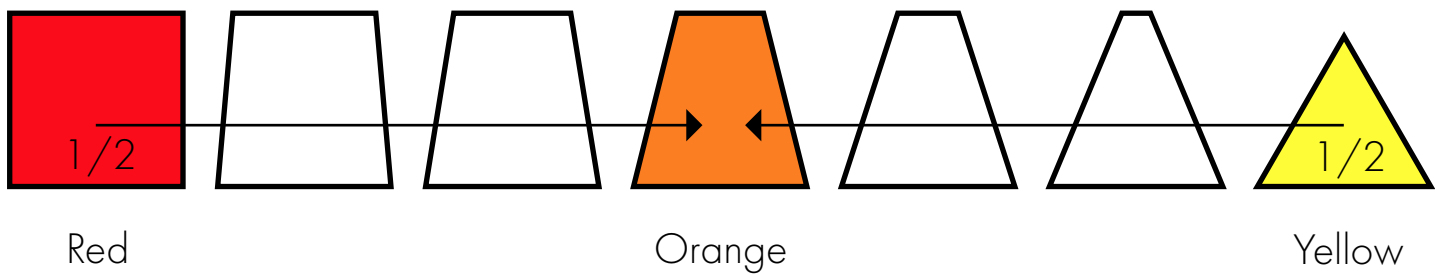
Red to Yellow: Mixing the Primaries Test 1



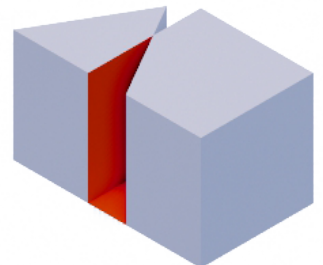
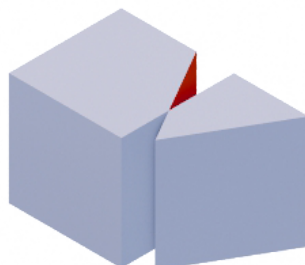
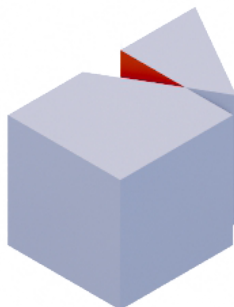
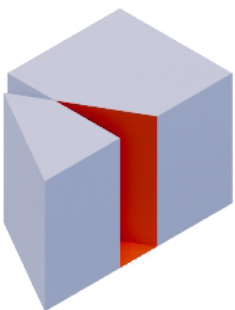
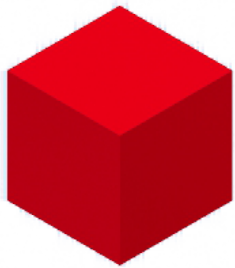
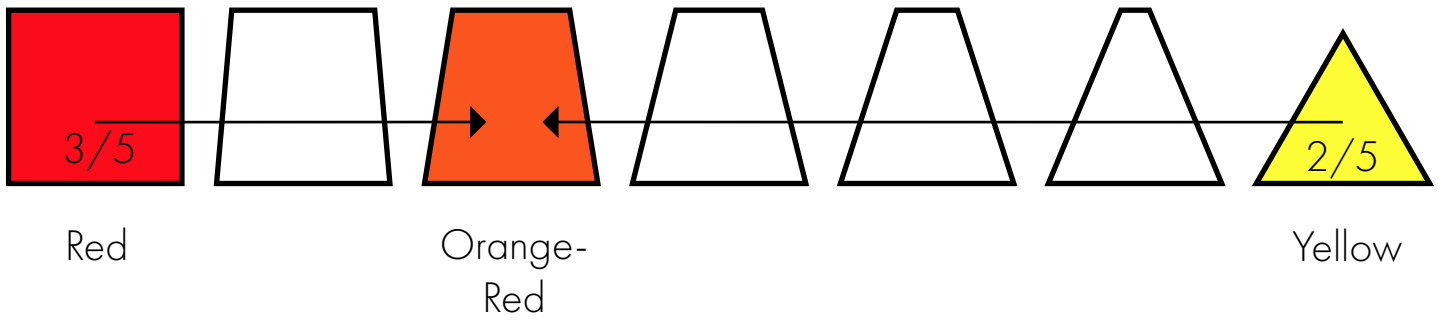
Red to Yellow: Mixing the Primaries Test 2



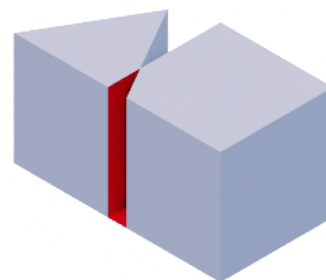
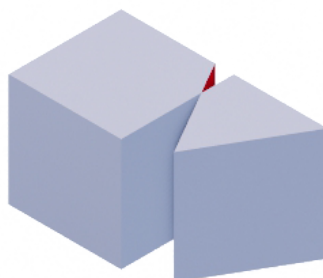
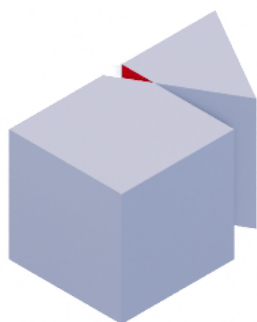
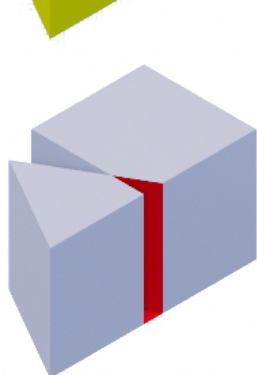
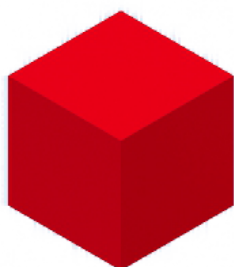
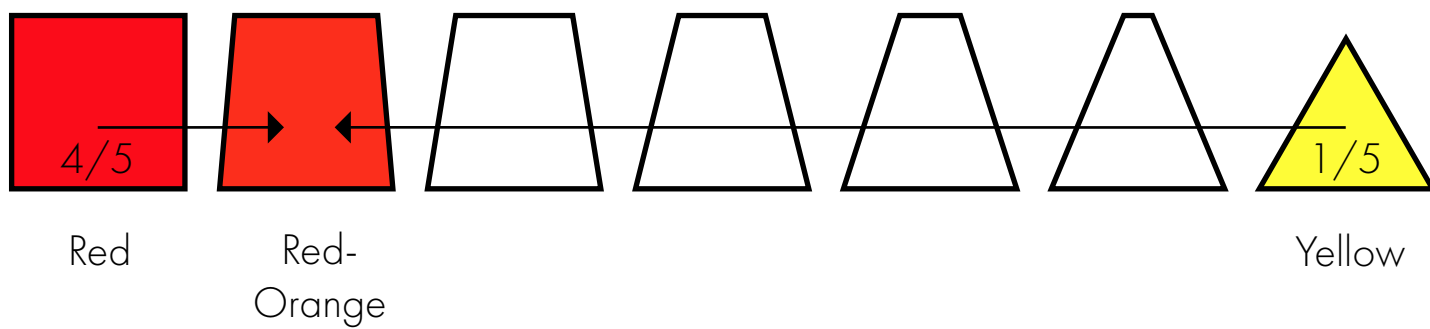
Red to Yellow: Mixing the Primaries Test 3



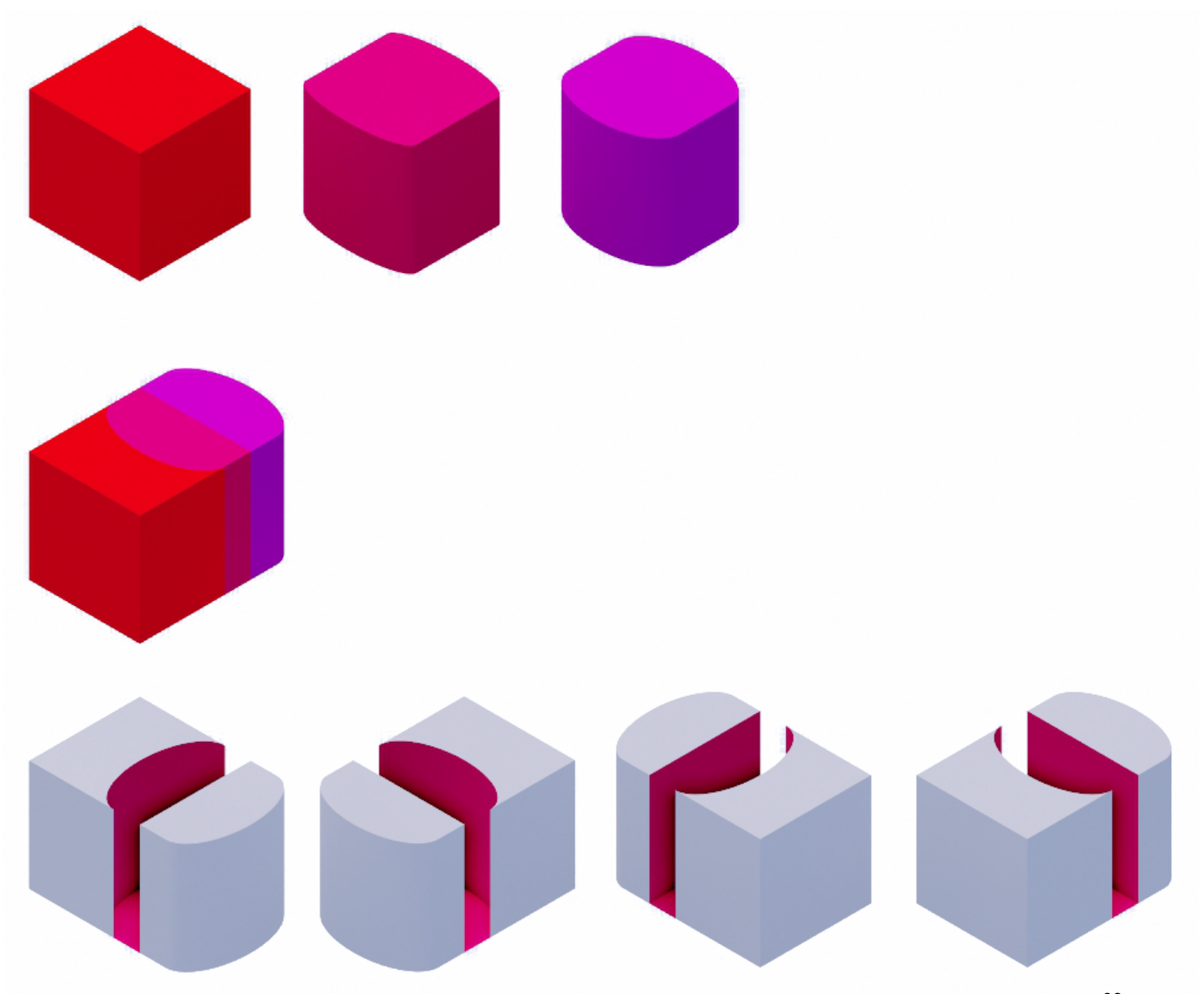
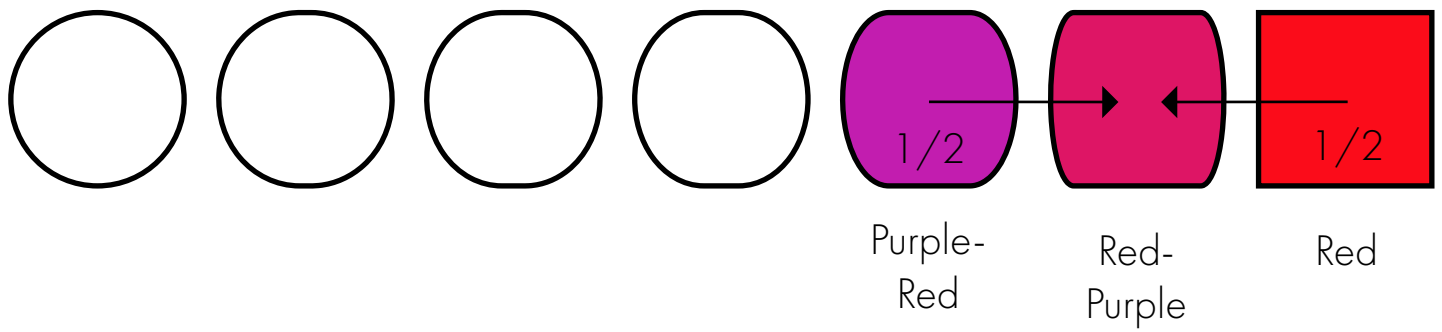
Red to Yellow: Mixing the Primaries Test 4



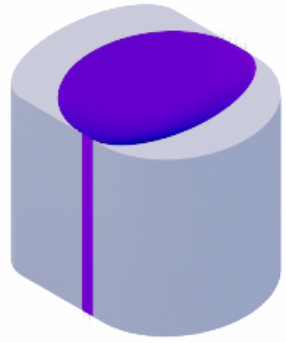
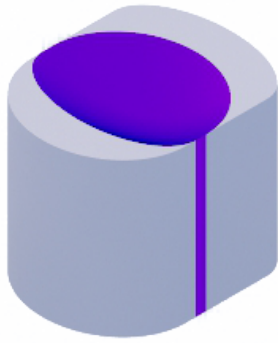
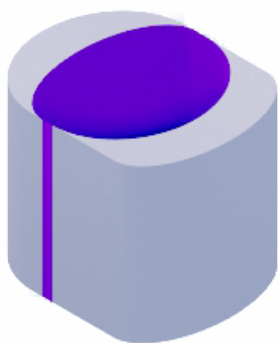
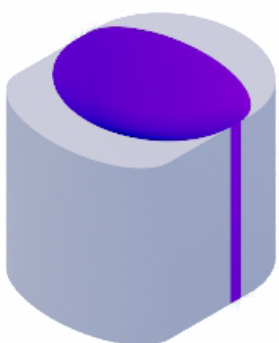
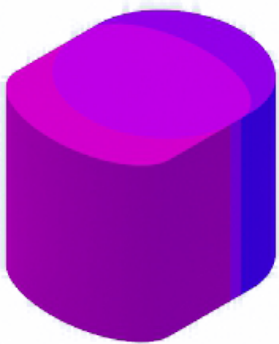
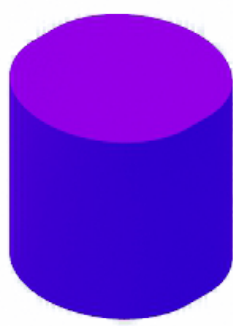
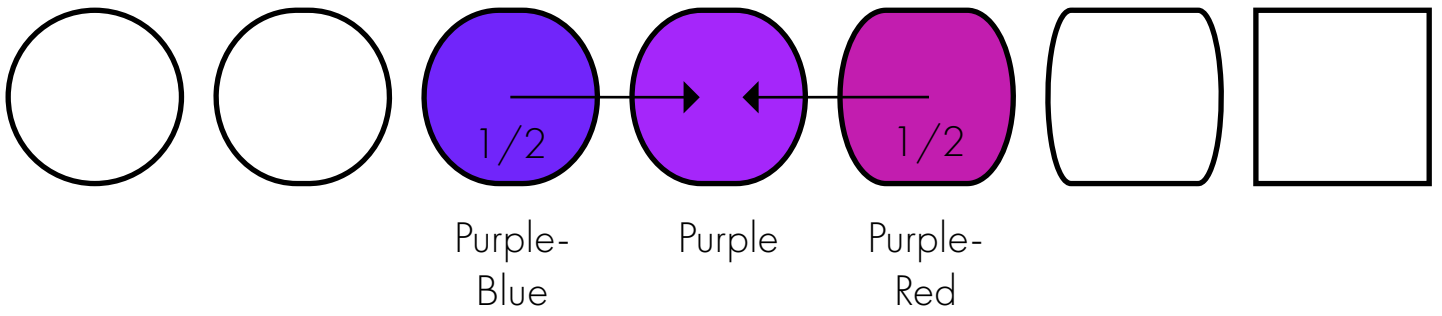
Red to Yellow: Mixing the Primaries Test 5



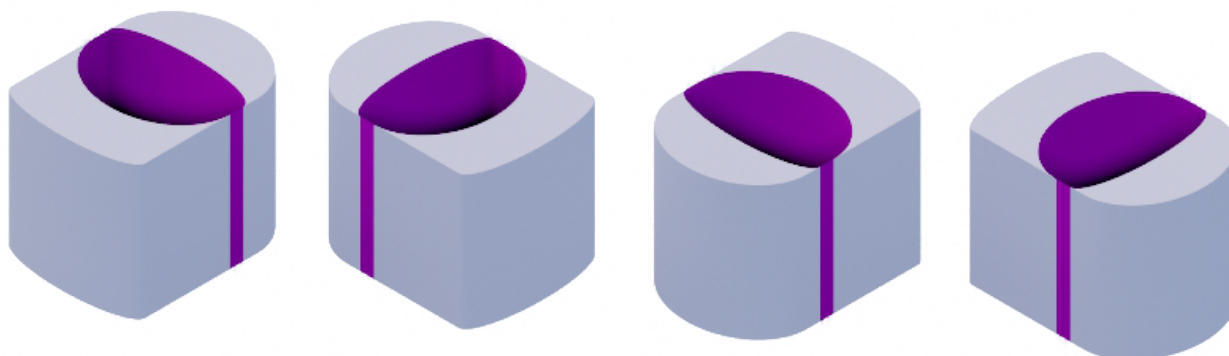
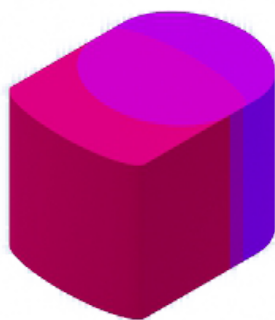
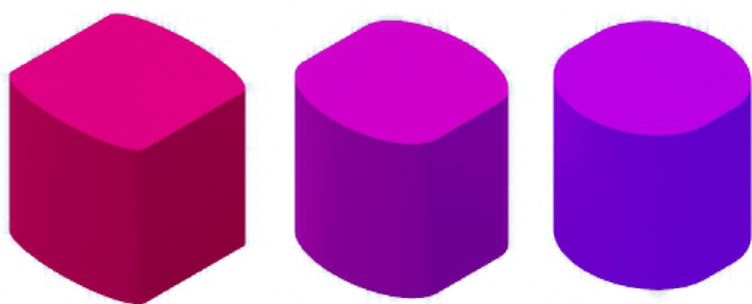
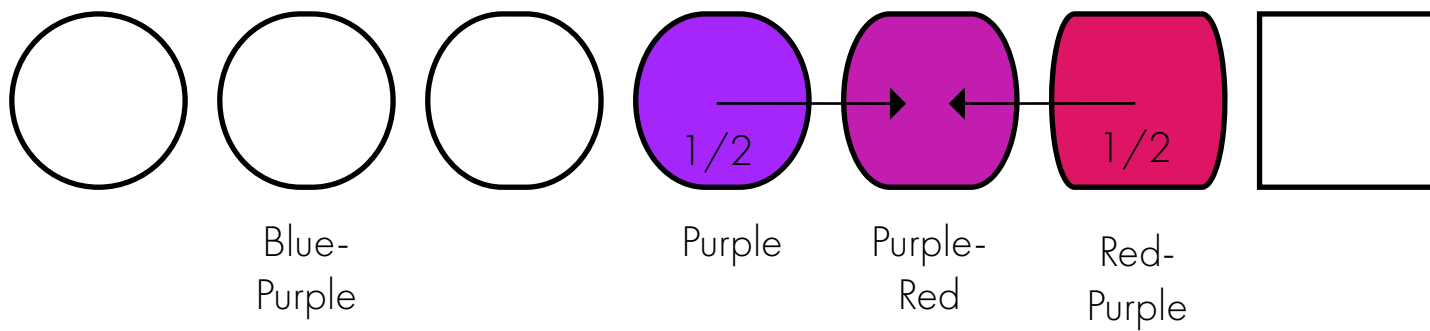
Blue to Red: 3 Analogous Colors Test 1



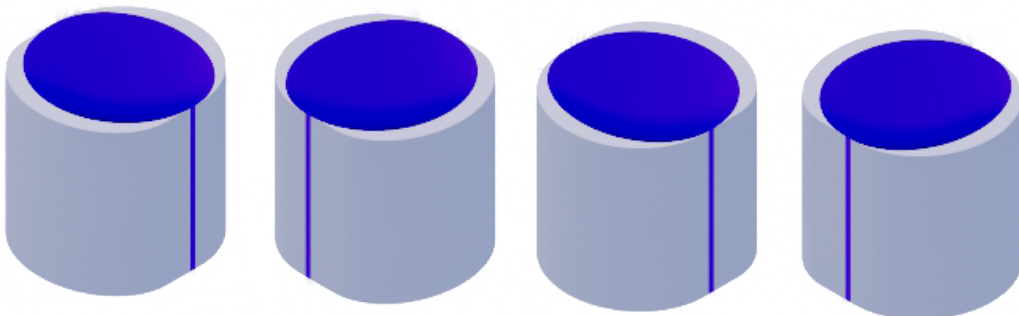
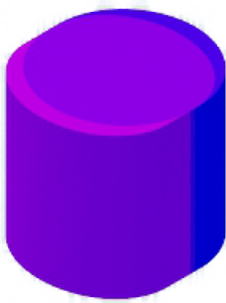
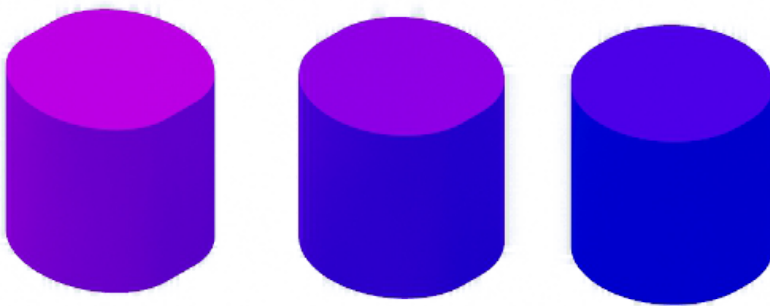
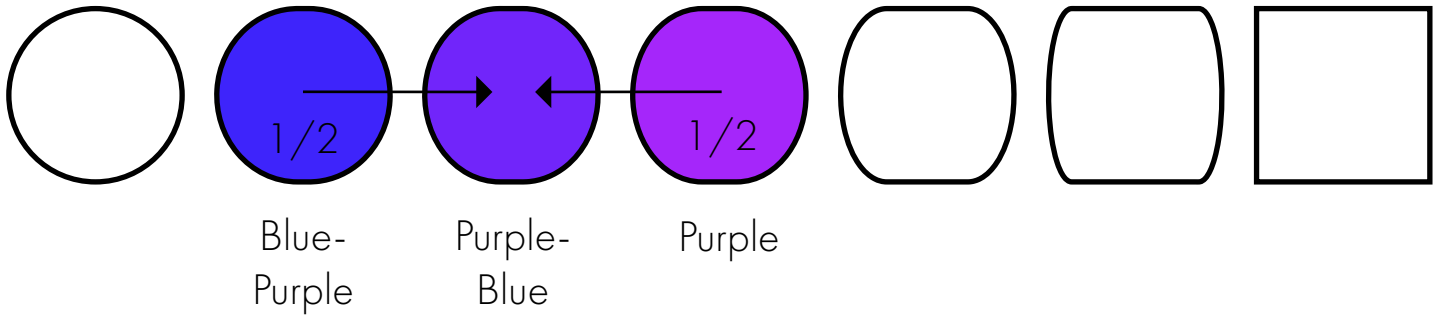
Blue to Red: 3 Analogous Colors Test 2



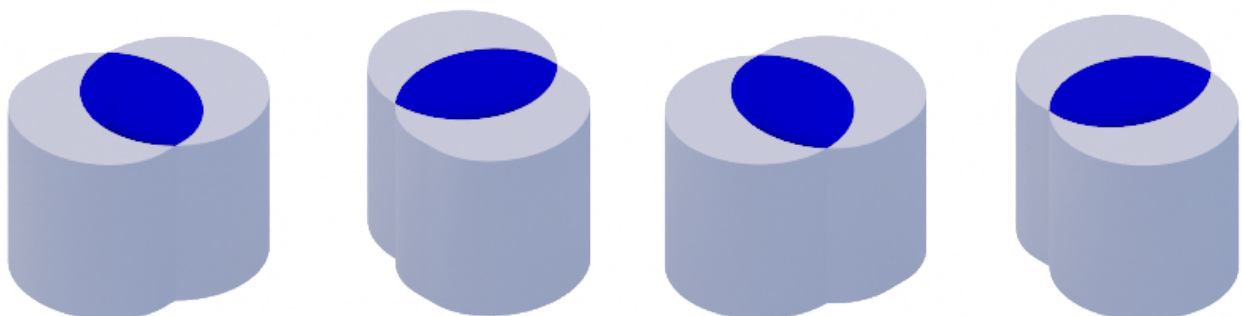
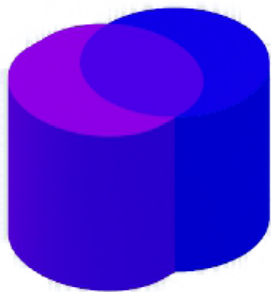
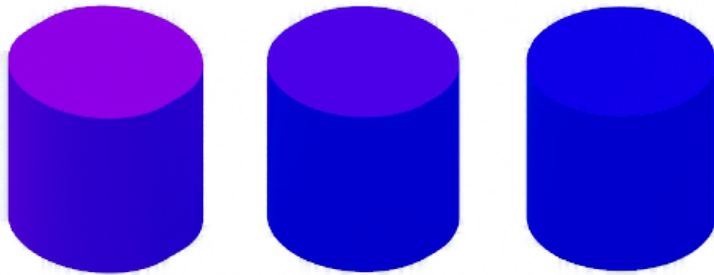
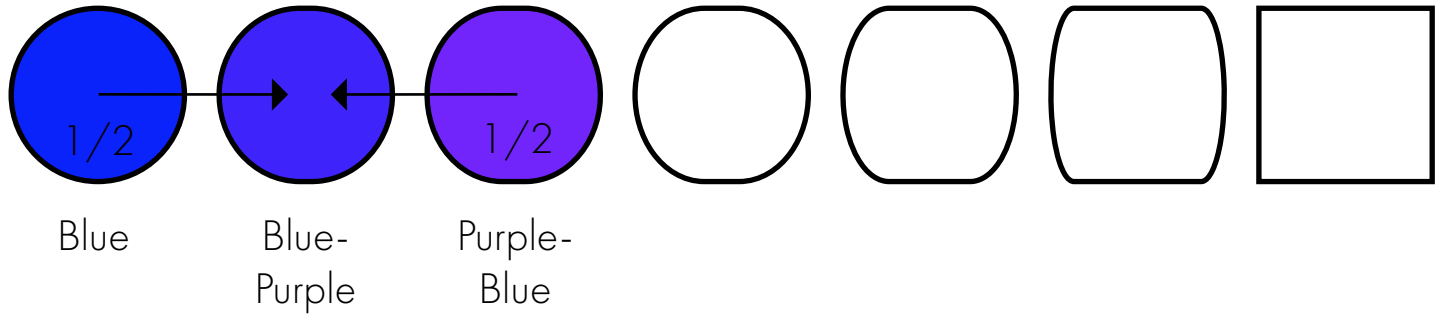
Blue to Red: 3 Analogous Colors Test 3



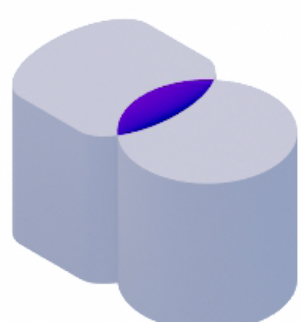
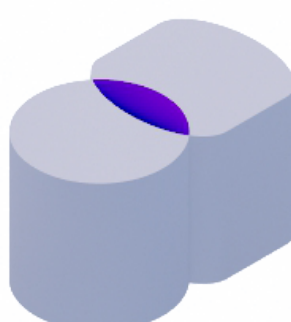
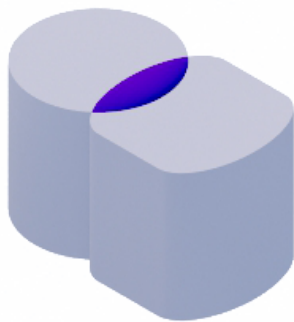
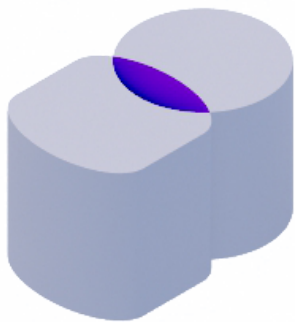
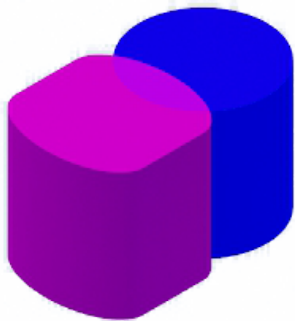
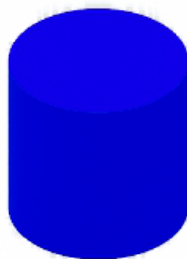
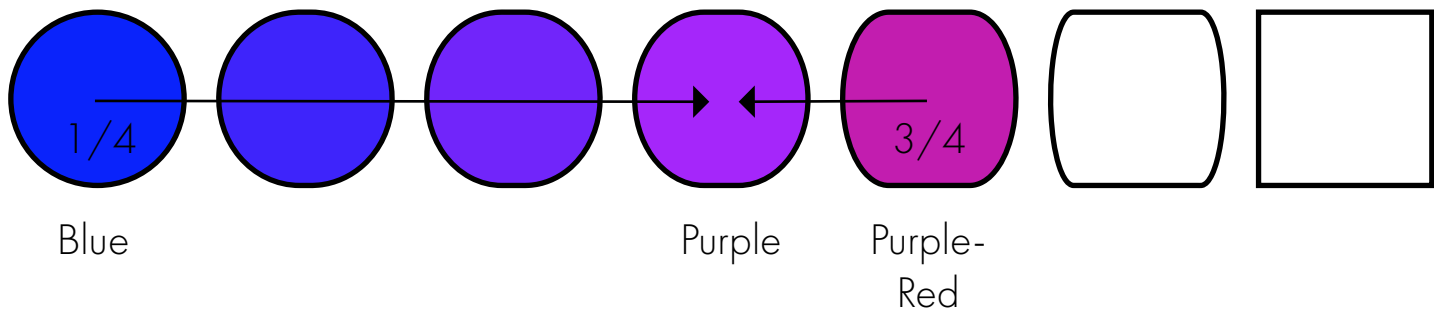
Blue to Red: 3 Analogous Colors Test 4



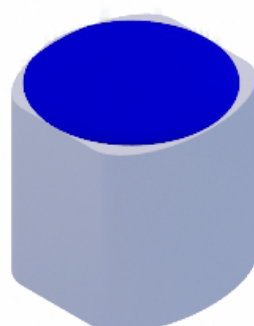
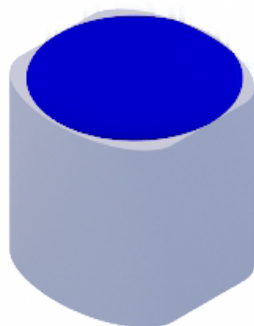
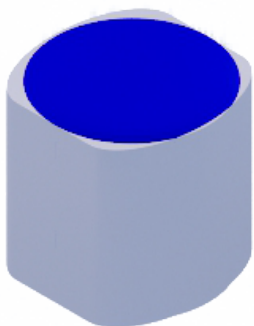
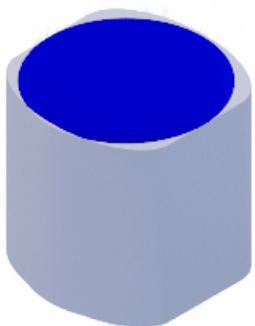
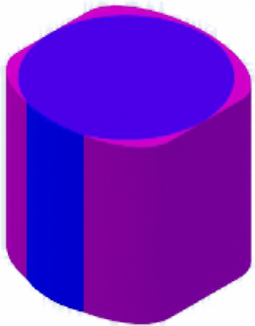
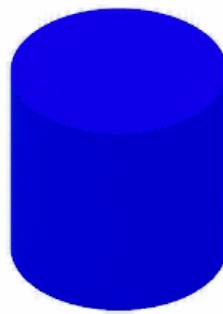
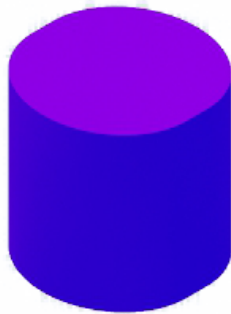
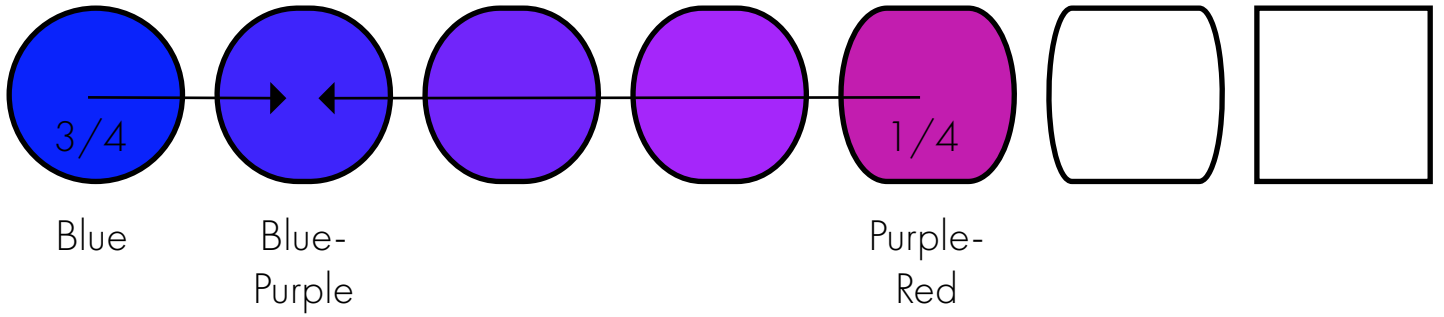
Blue to Red: 3 Analogous Colors Test 5



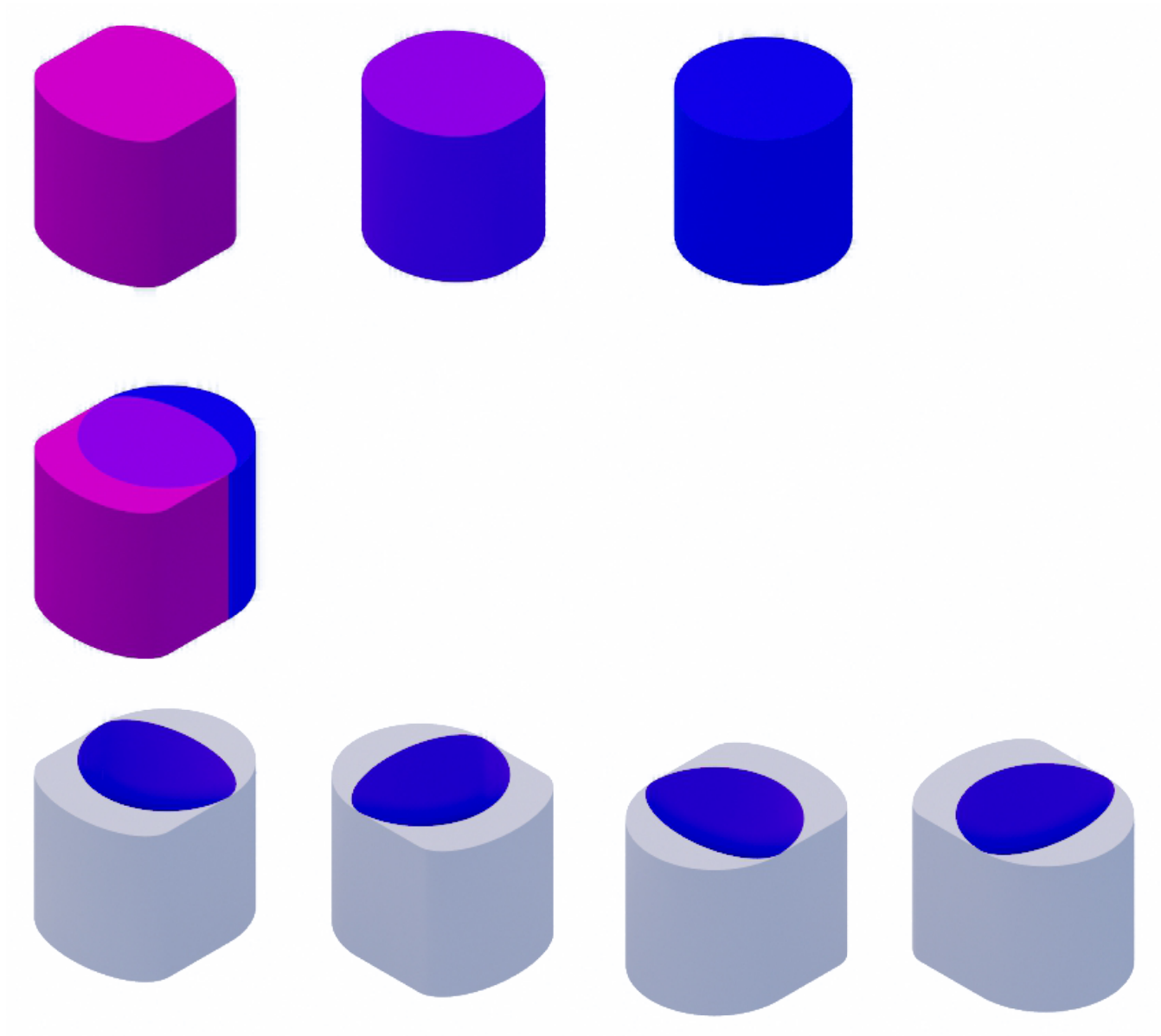
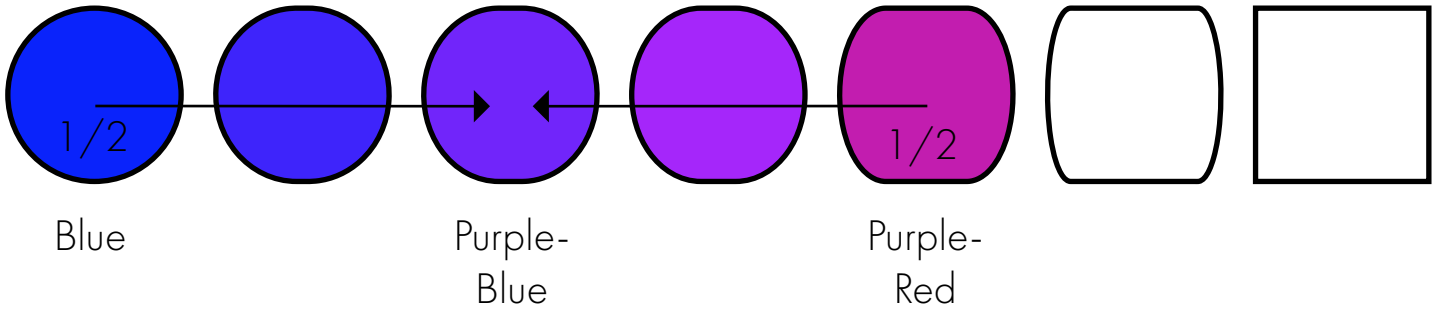
Blue to Red: 5 Analogous Colors Test 1a



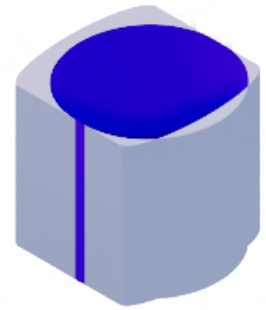
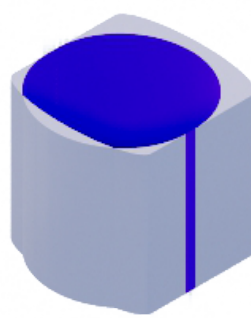
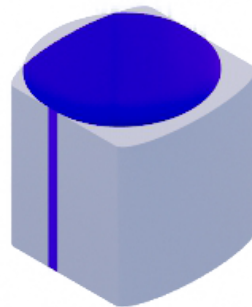
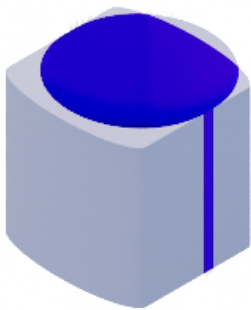
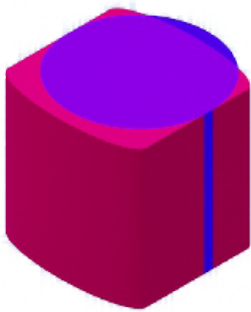
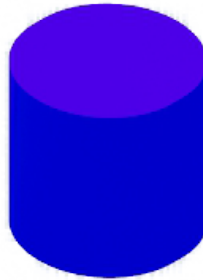
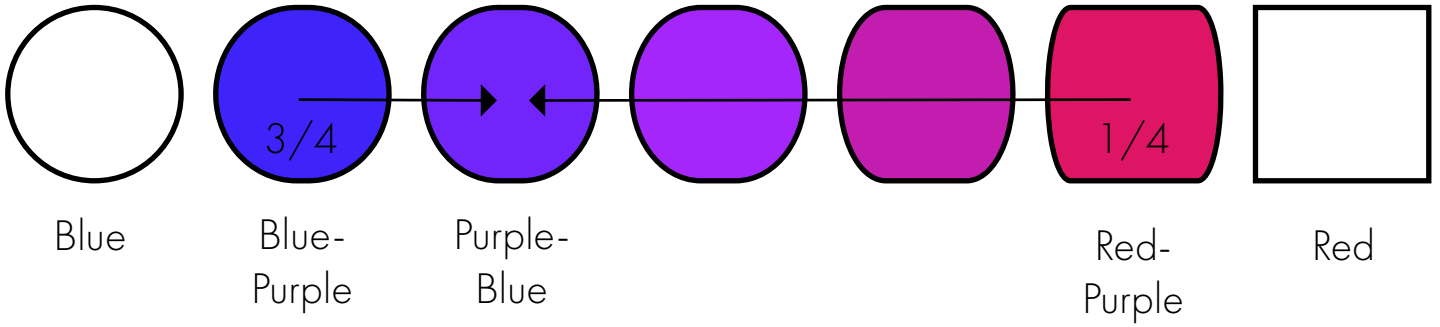
Blue to Red: 5 Analogous Colors Test 1b



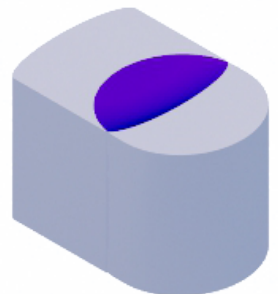
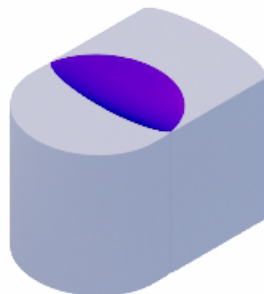
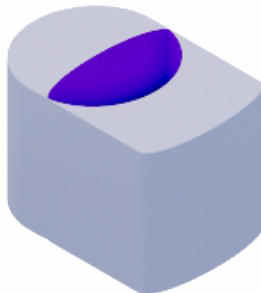
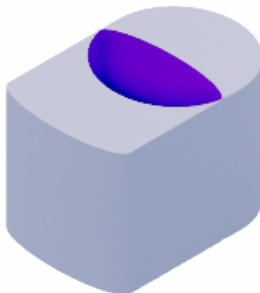
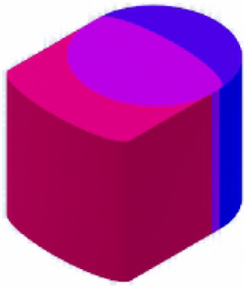
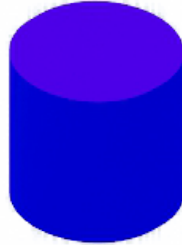
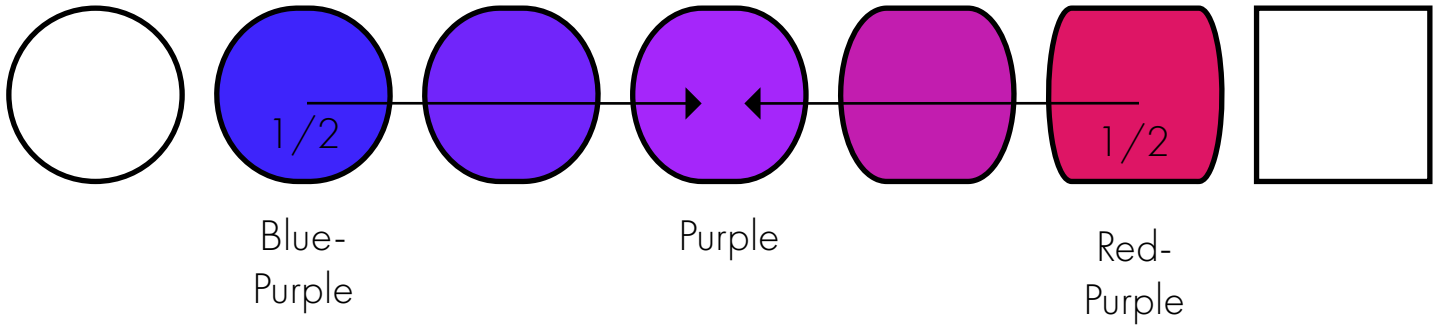
Blue to Red: 5 Analogous Colors Test 1c



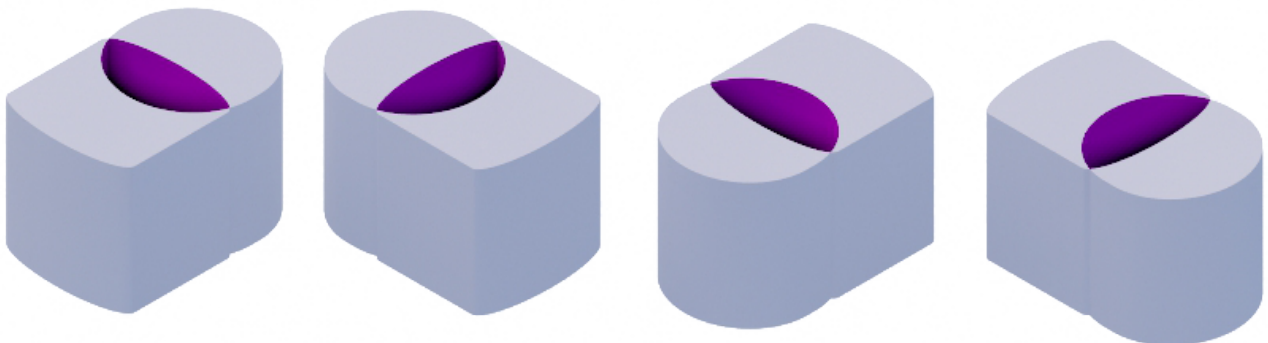
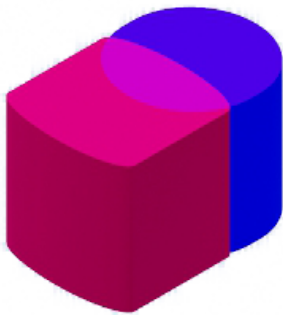
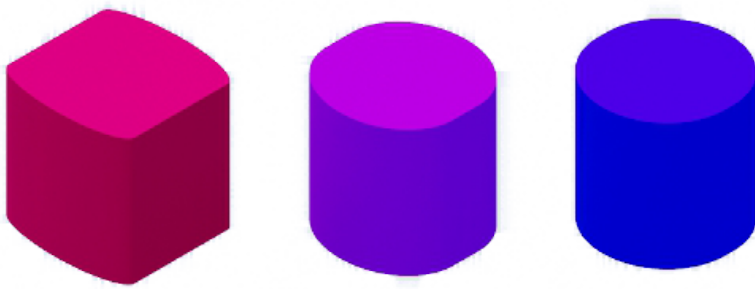
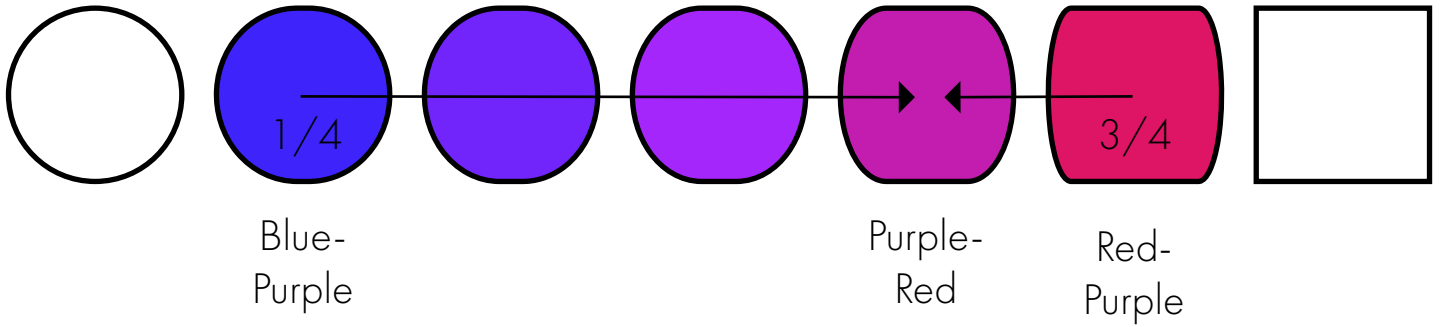
Blue to Red: 5 Analogous Colors Test 2a



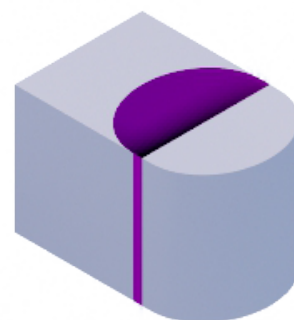
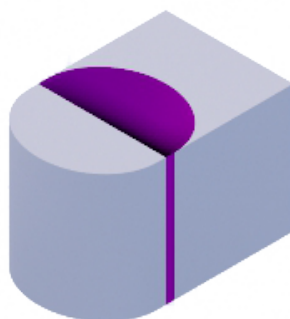
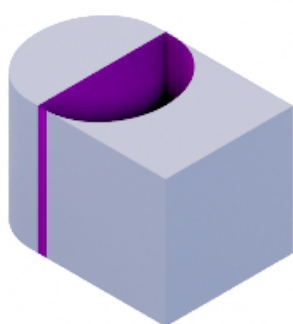
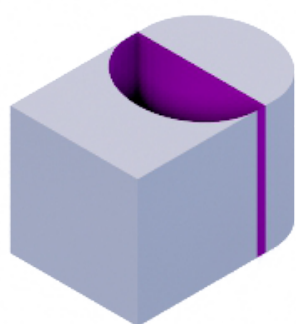
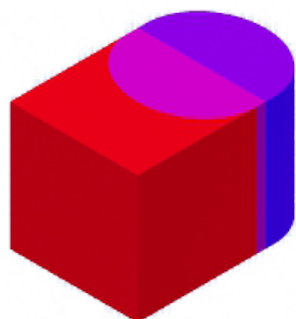
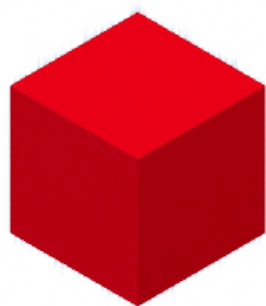
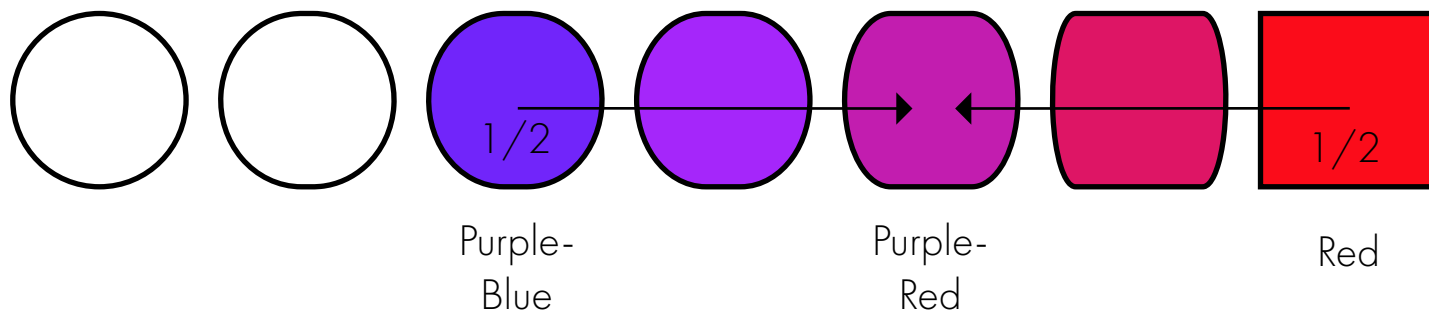
Blue to Red: 5 Analogous Colors Test 2b



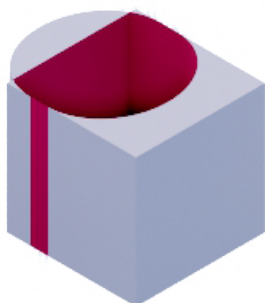
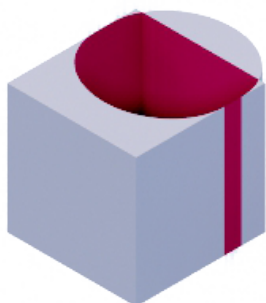
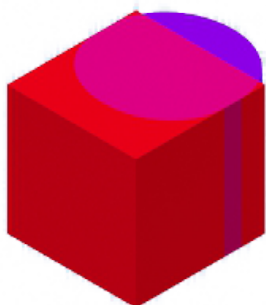
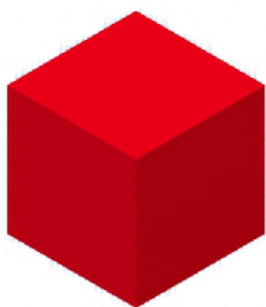
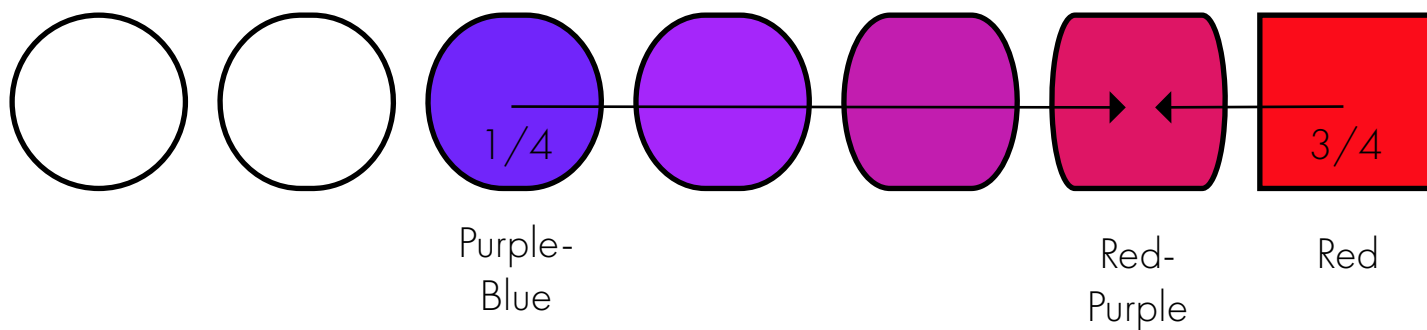
Blue to Red: 5 Analogous Colors Test 2c



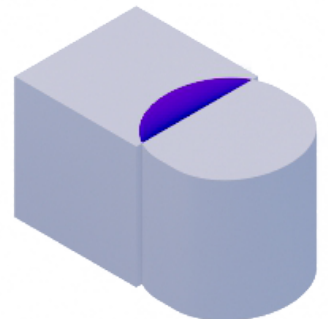
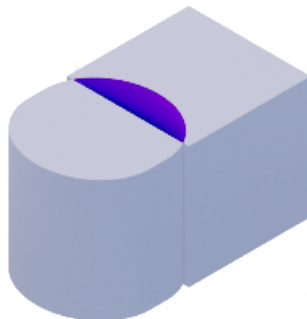
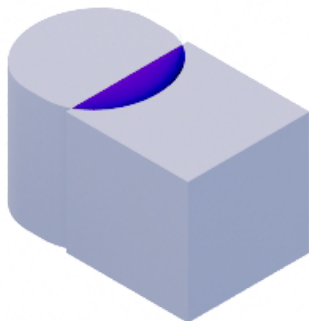
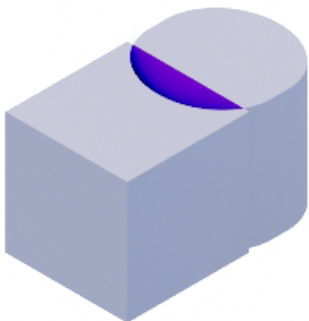
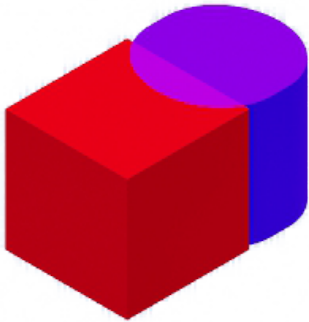
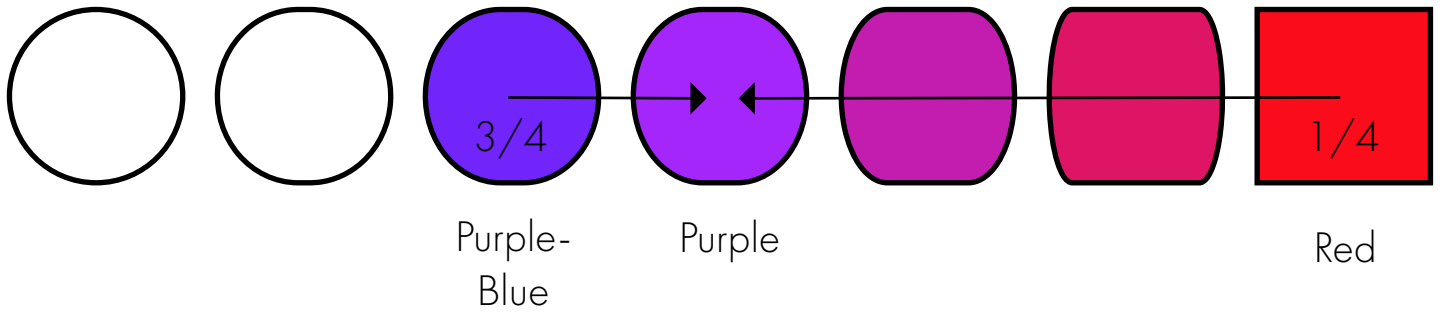
Blue to Red: 5 Analogous Colors Test 3a



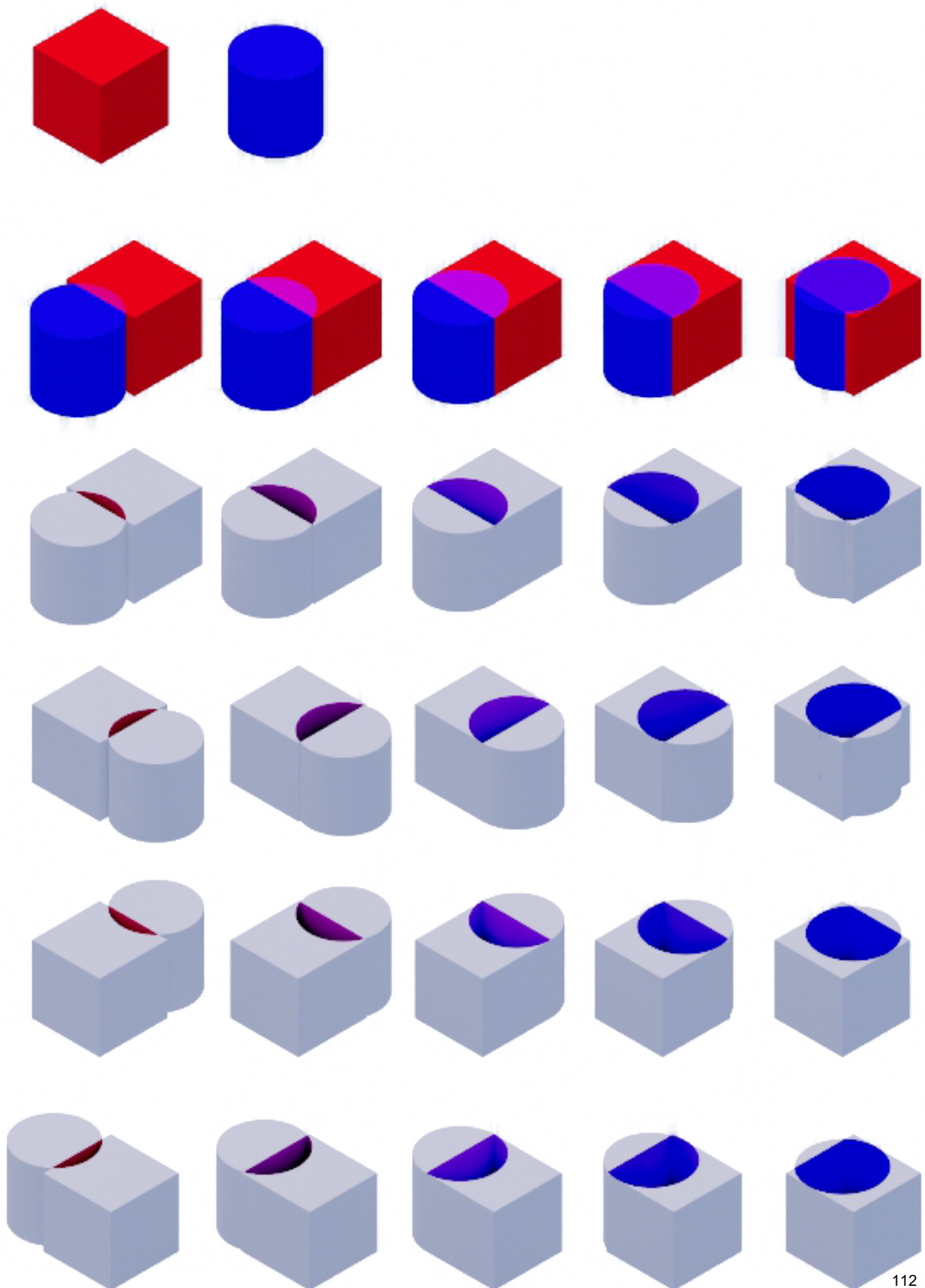
Blue to Red: 5 Analogous Colors Test 3b



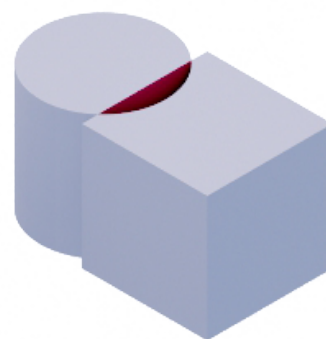
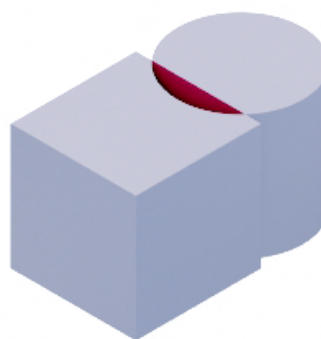
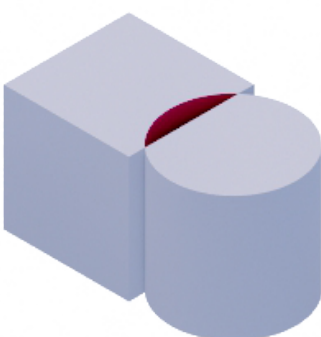
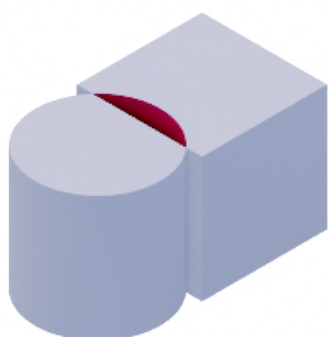
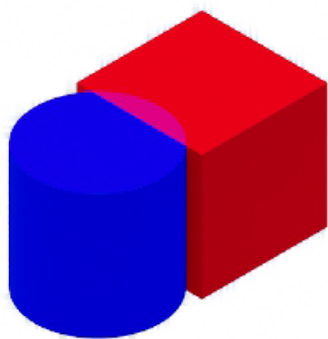
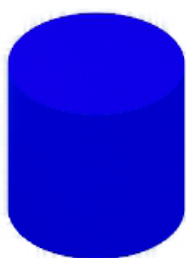
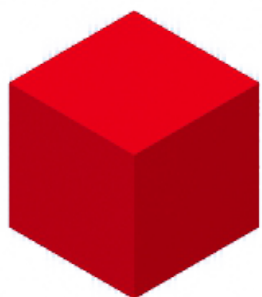
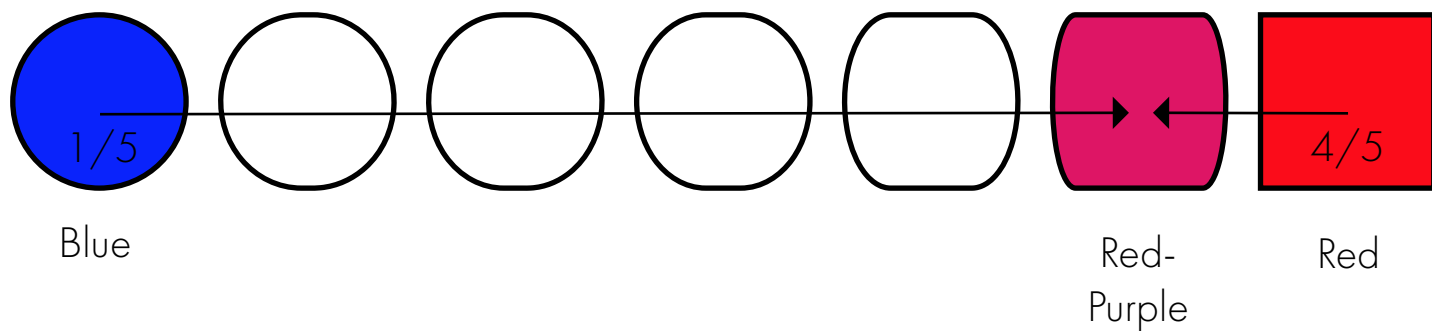
Blue to Red: 5 Analogous Colors Test 3c



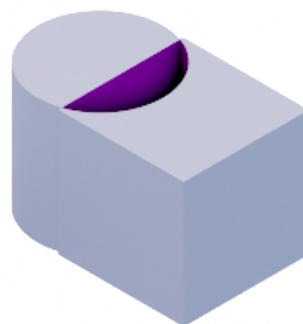
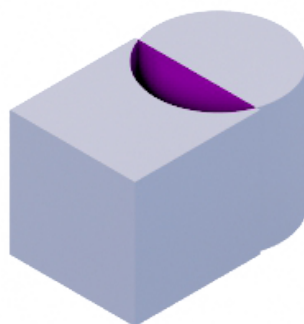
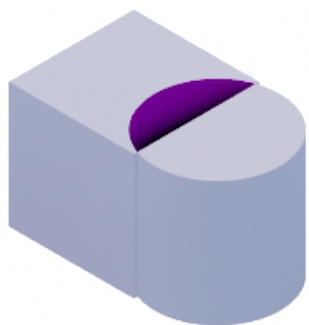
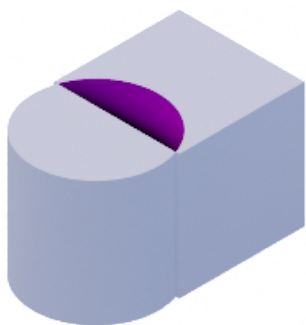
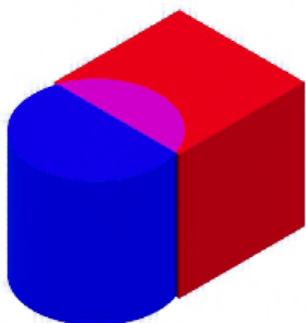
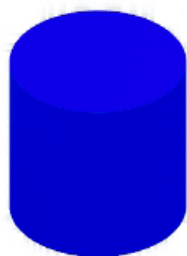
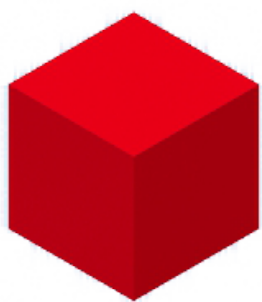
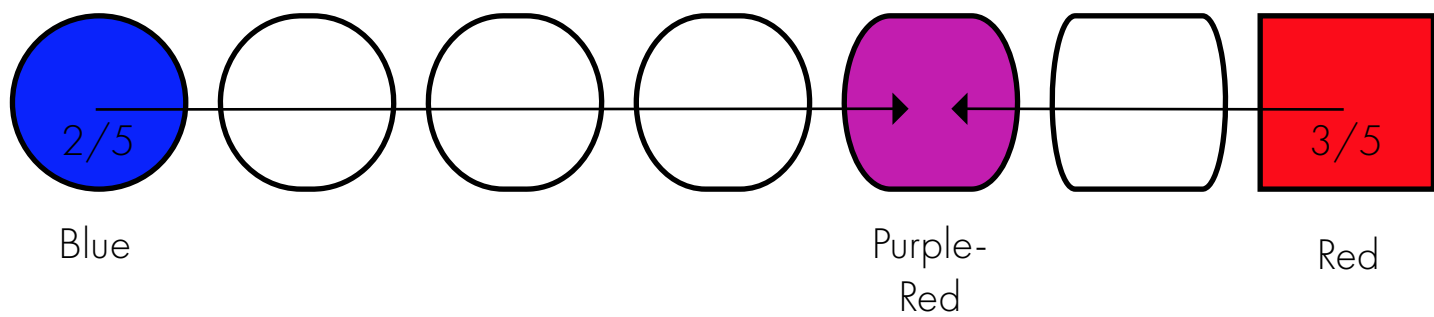
Blue to Red: Mixing the Primaries All Tests



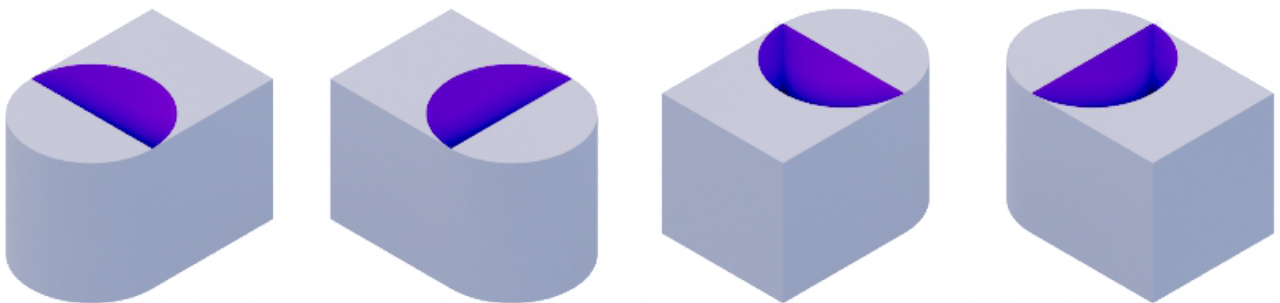
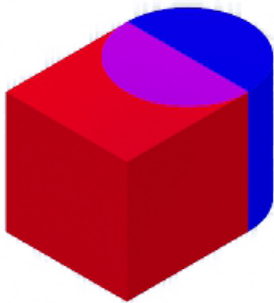
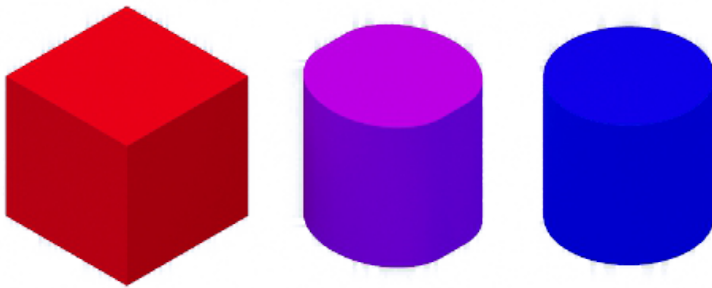
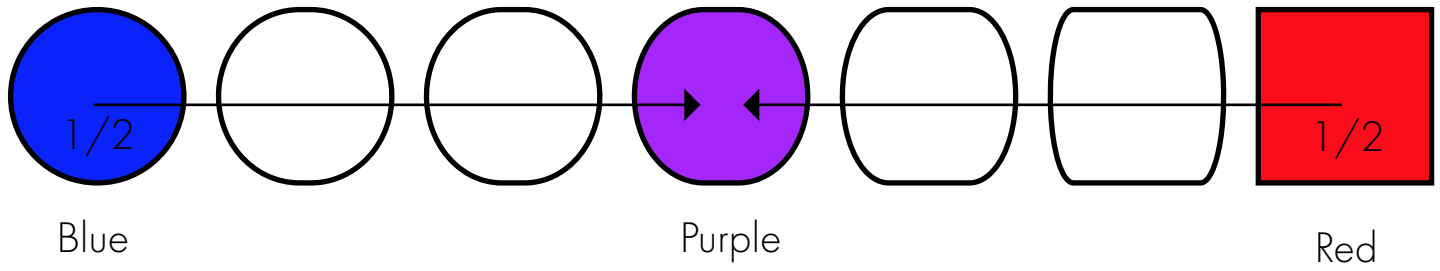
Blue to Red: Mixing the Primaries Test 1



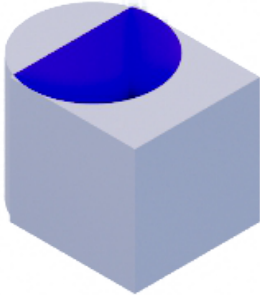
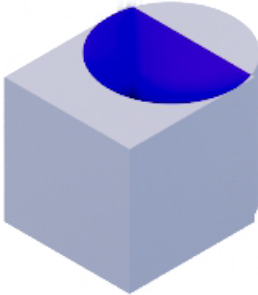
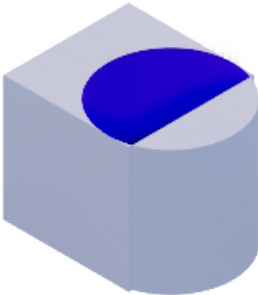
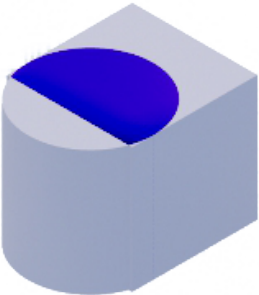
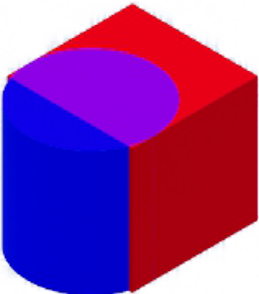
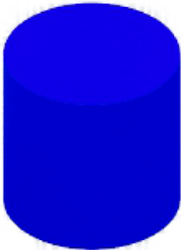
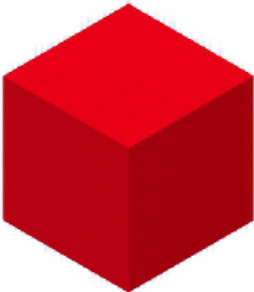
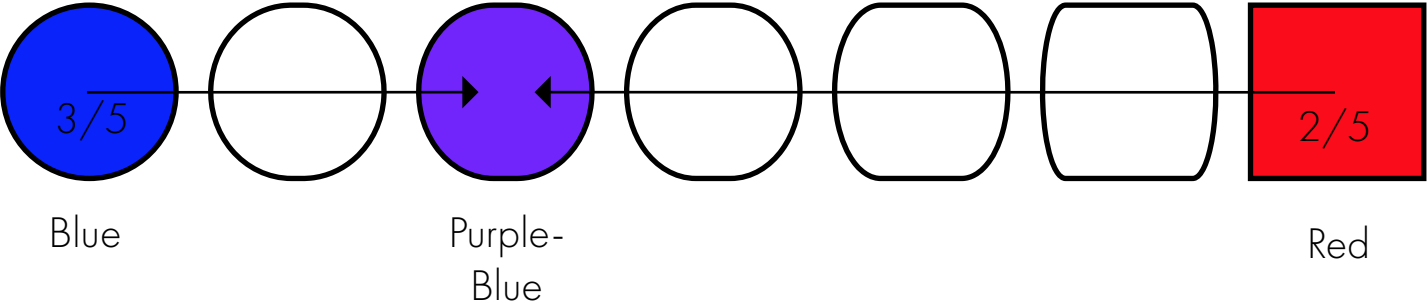
Blue to Red: Mixing the Primaries Test 2



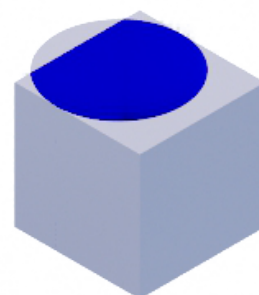
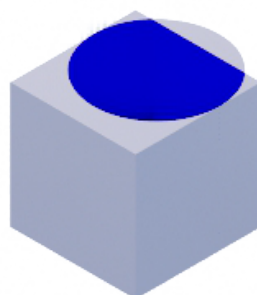
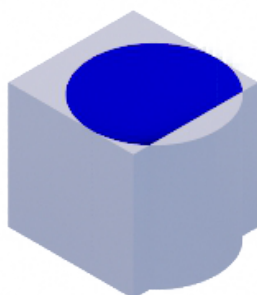
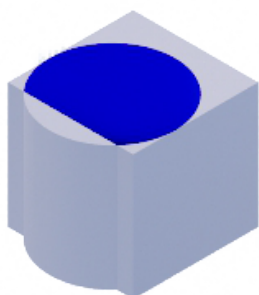
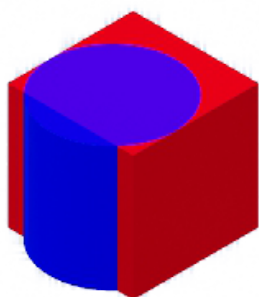
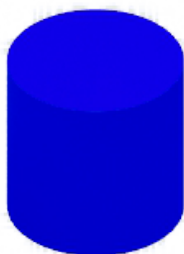
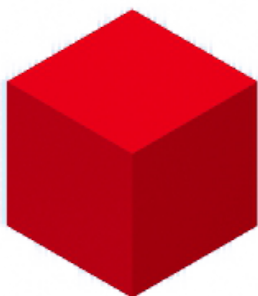
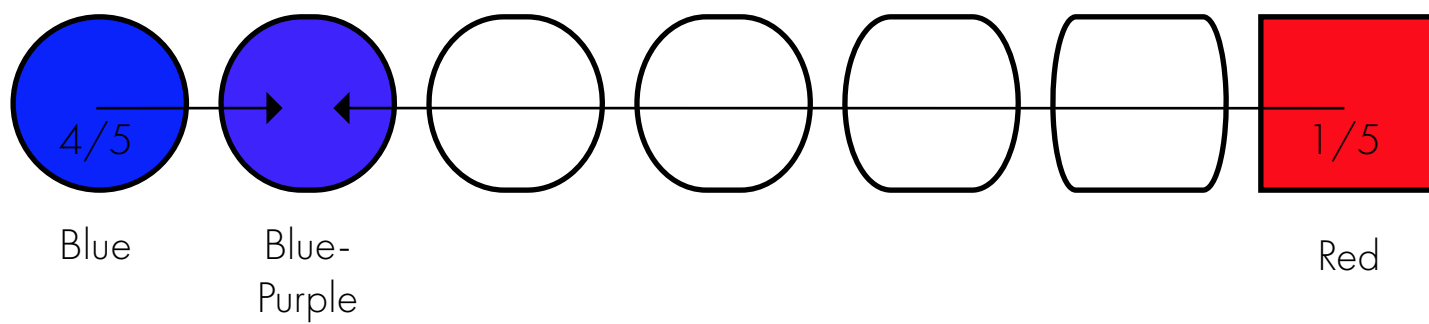
Blue to Red: Mixing the Primaries Test 3



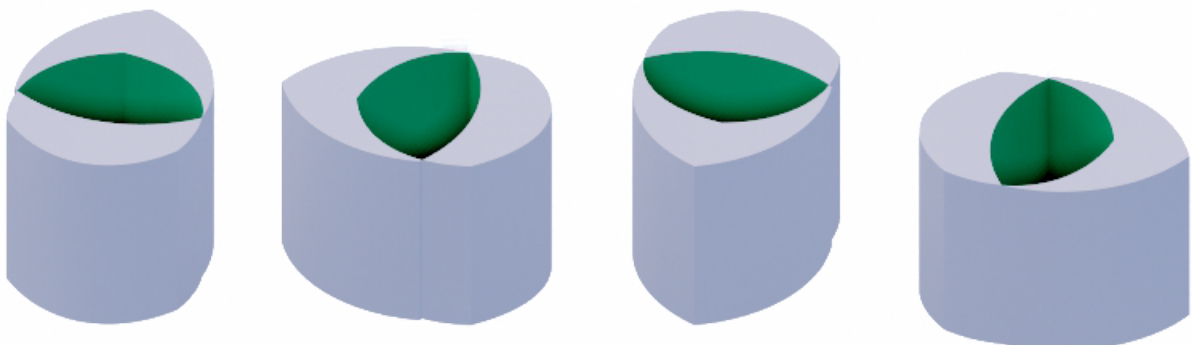
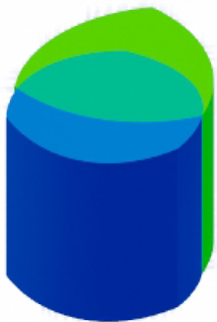
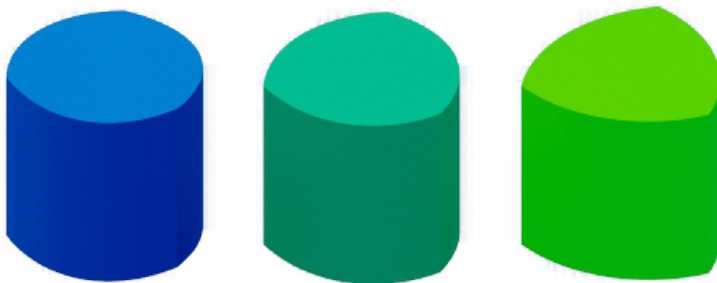
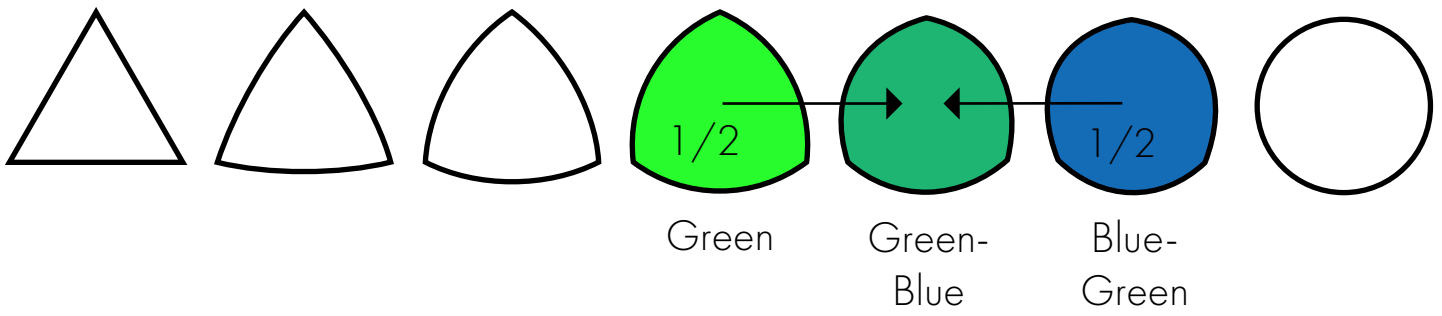
Blue to Red: Mixing the Primaries Test 4



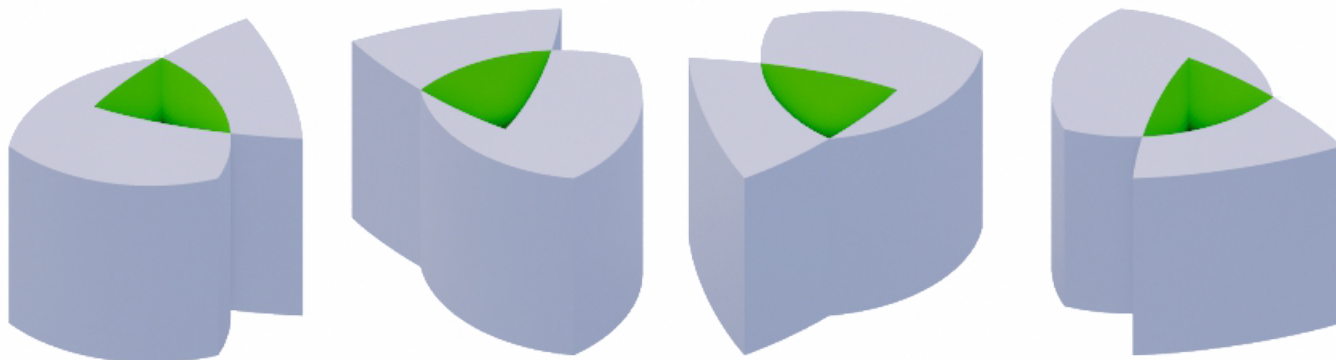
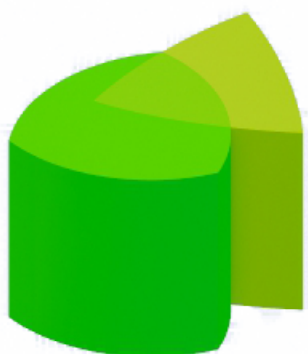
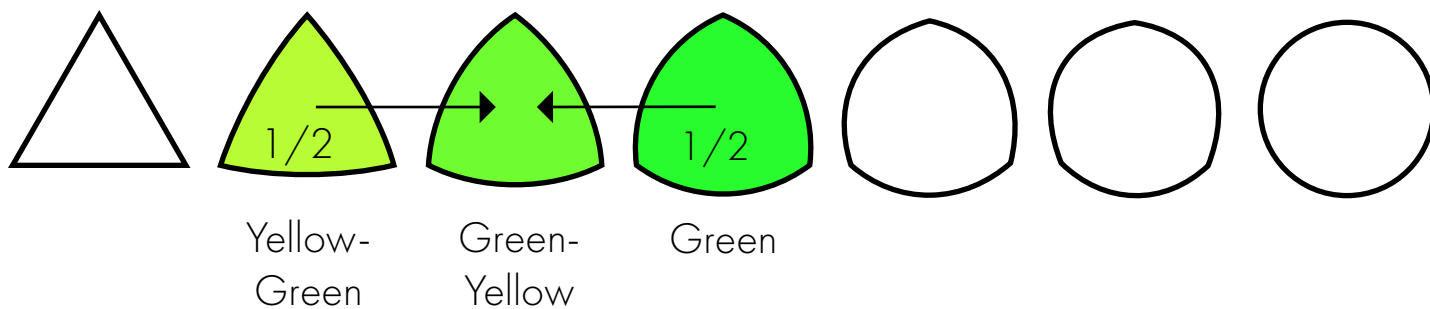
Blue to Red: Mixing the Primaries Test 5



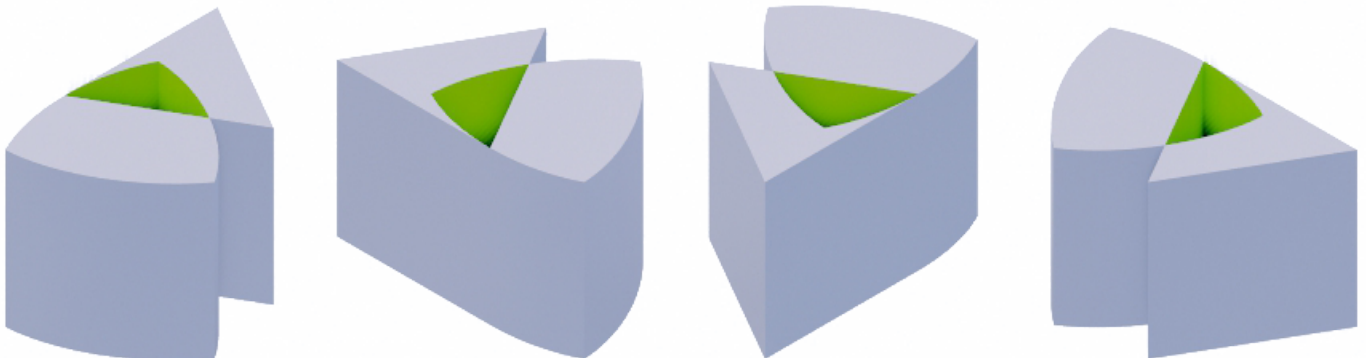
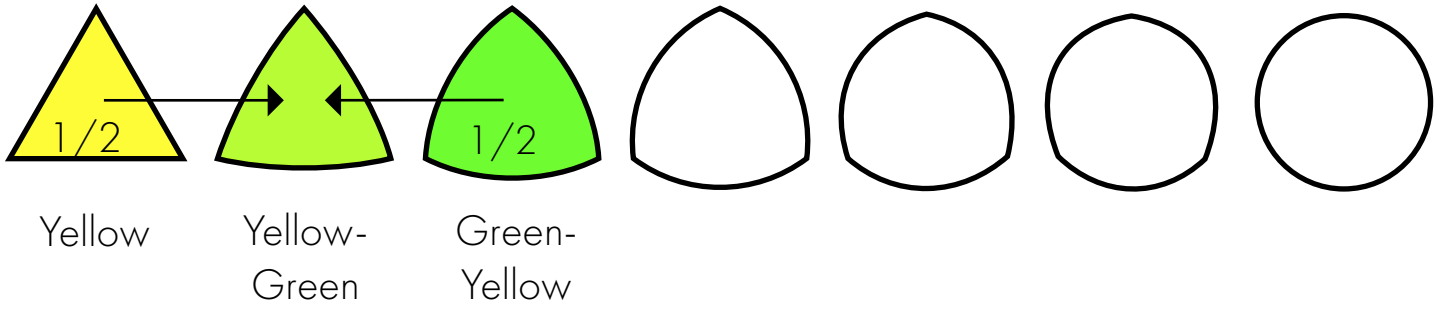
Yellow to Blue: 3 Analogous Colors Test 1



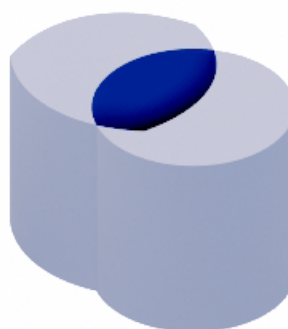
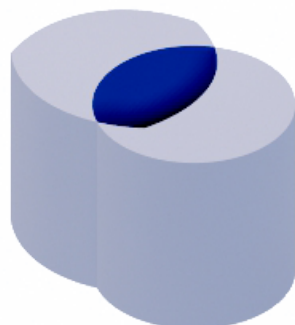
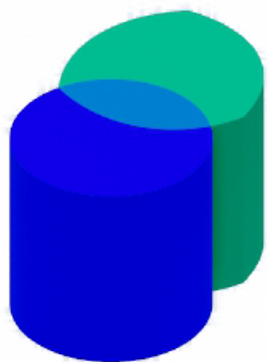
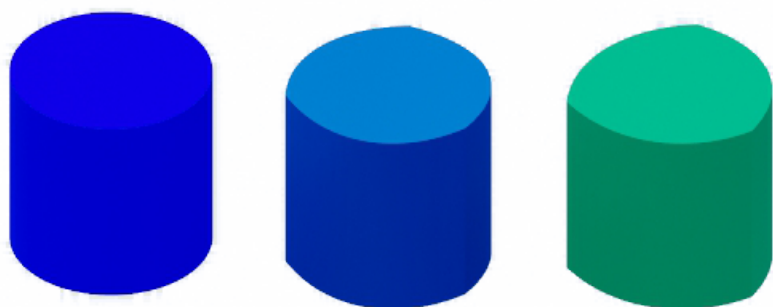
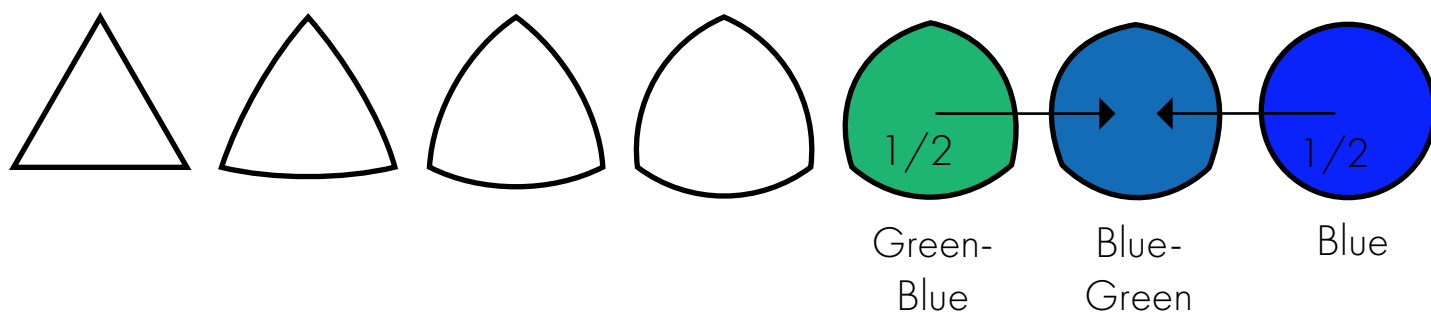
Yellow to Blue: 3 Analogous Colors Test 2



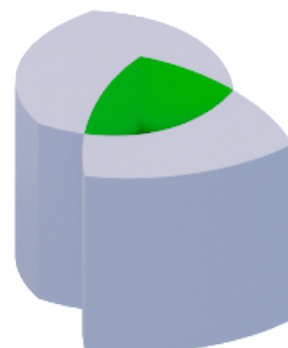
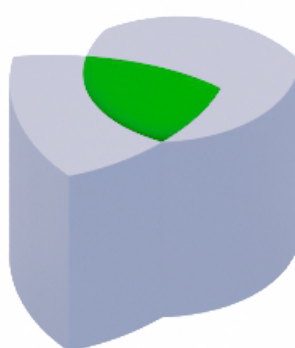
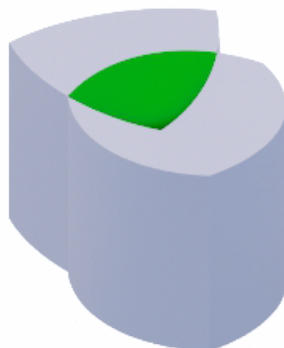
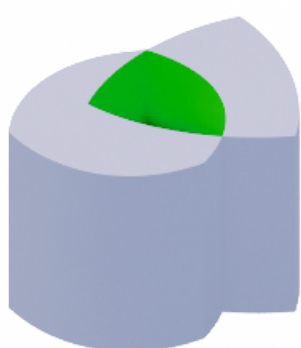
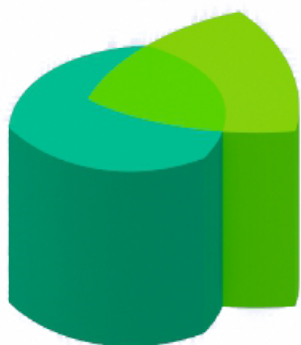
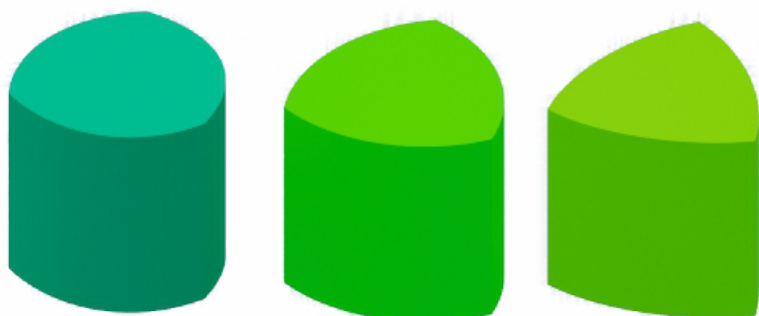
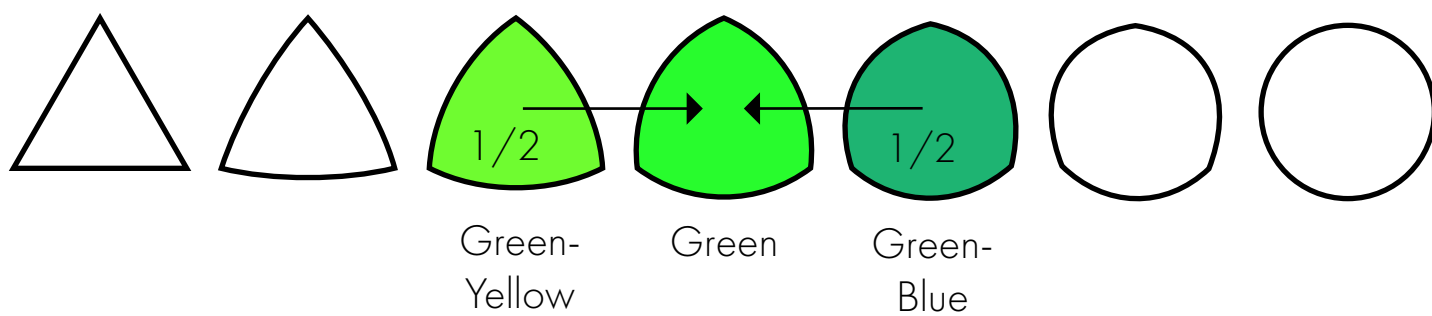
Yellow to Blue: 3 Analogous Colors Test 3



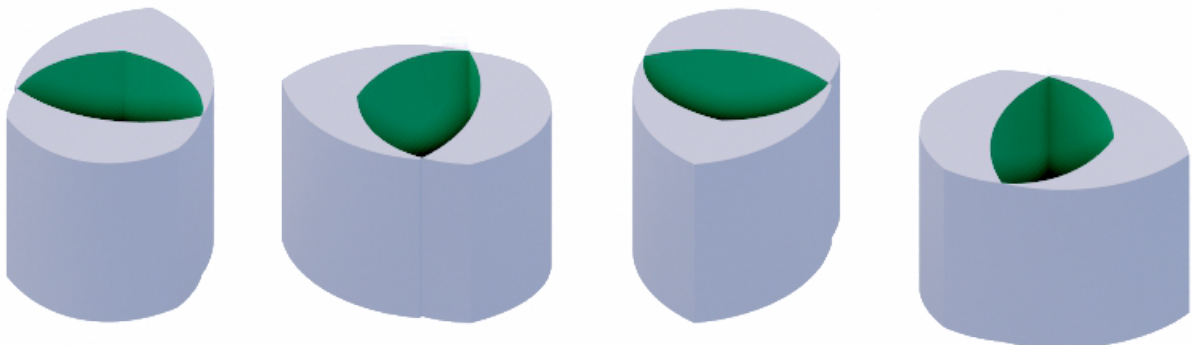
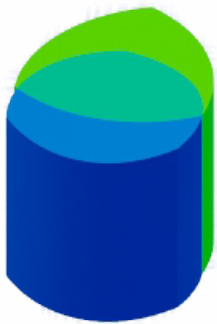
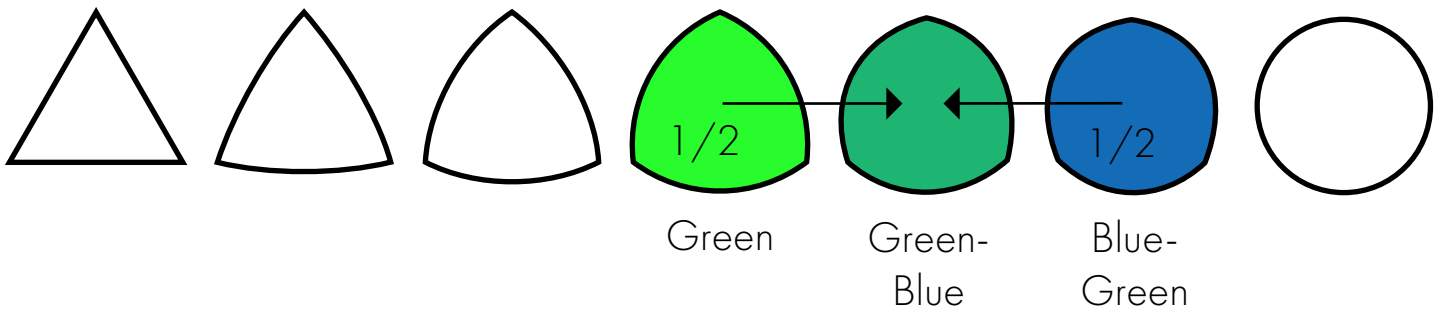
Yellow to Blue: 3 Analogous Colors Test 4



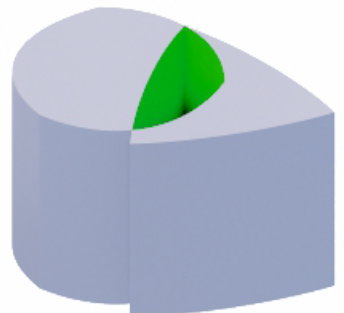
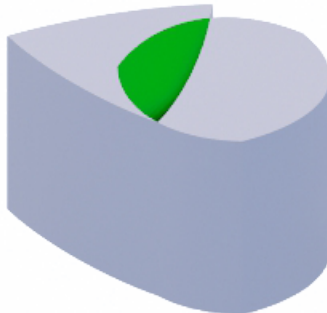
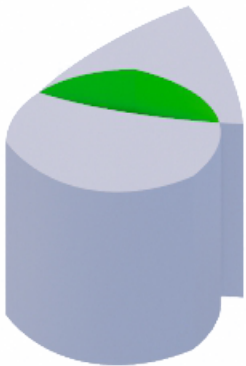
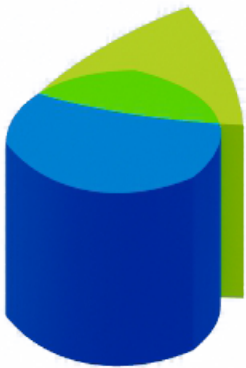
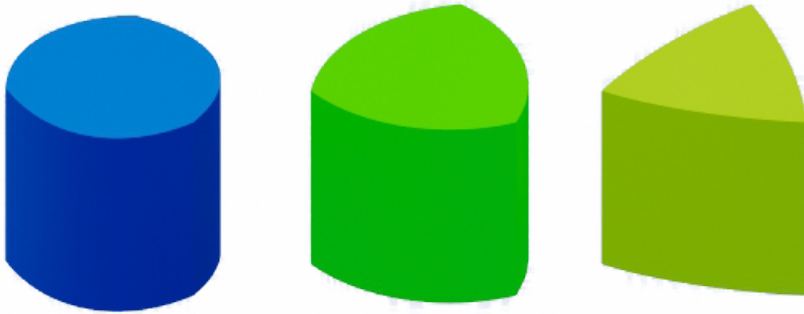
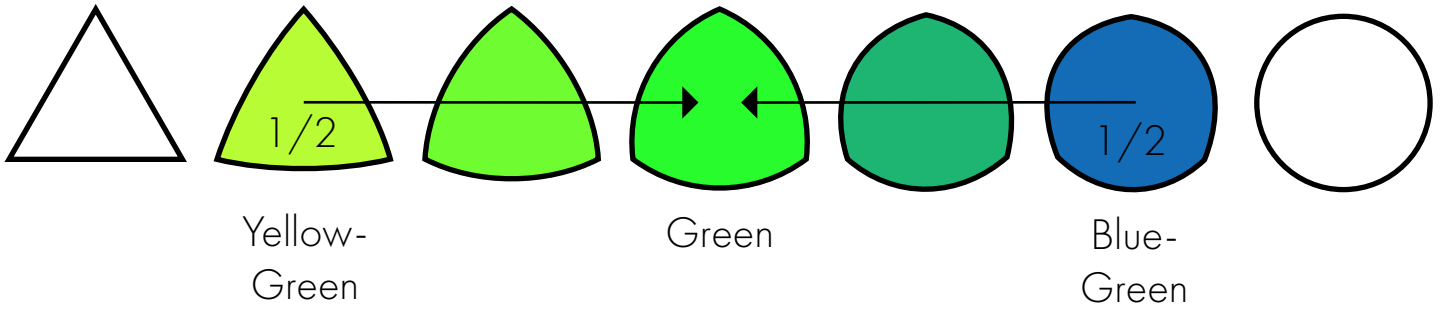
Yellow to Blue: 3 Analogous Colors Test 5



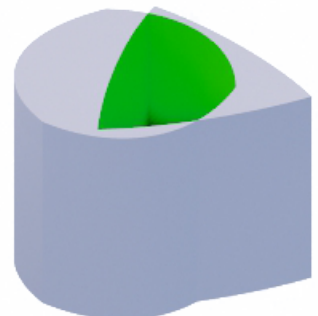
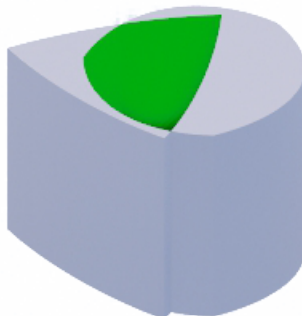
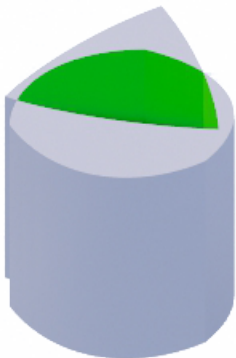
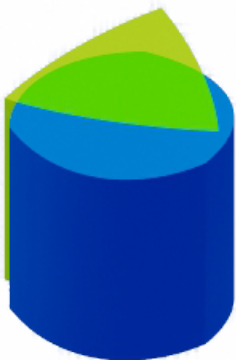
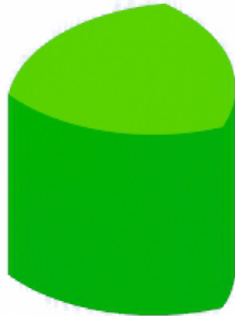
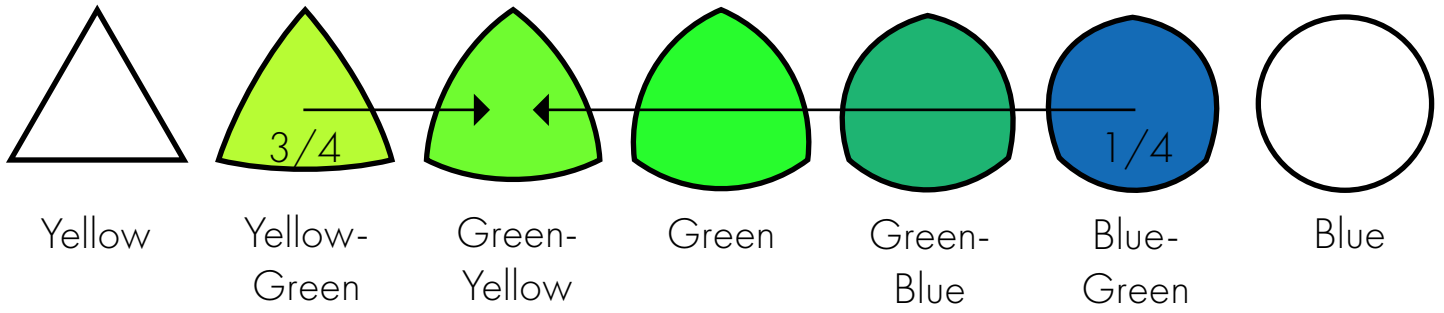
Yellow to Blue: 3 Analogous Colors Test 1



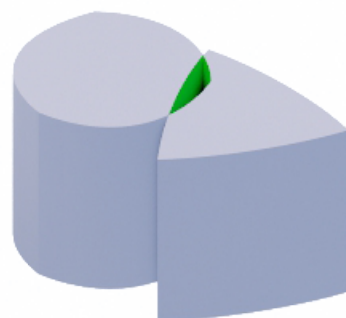
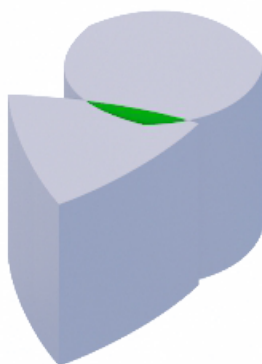
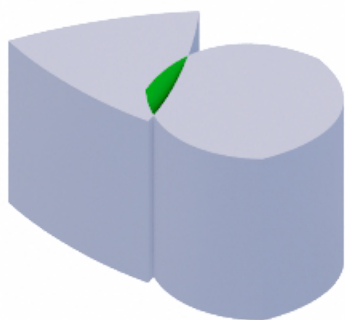
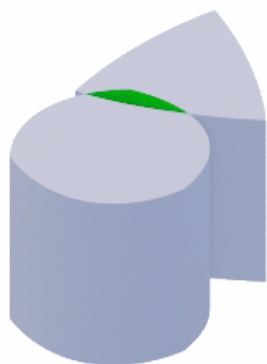
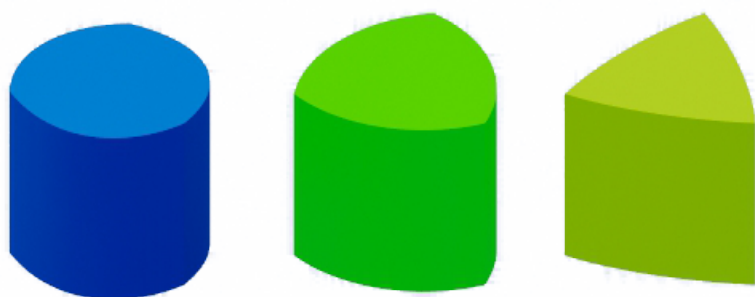
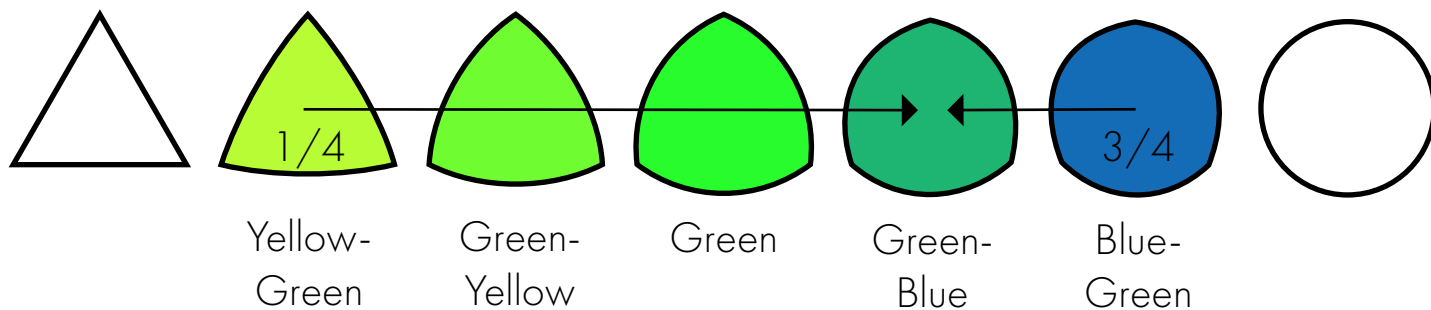
Yellow to Blue: 5 Analogous Colors Test 1a



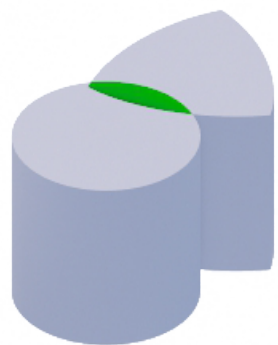
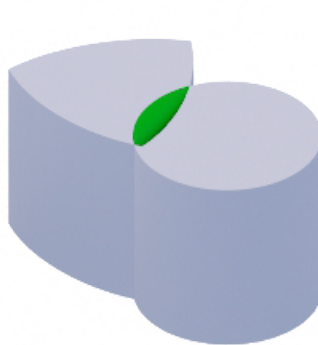
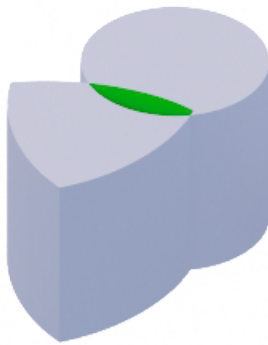
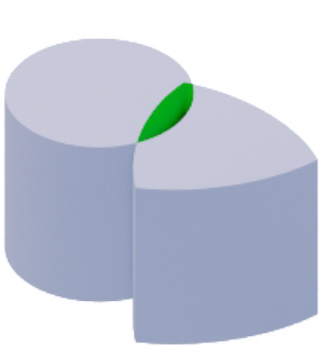
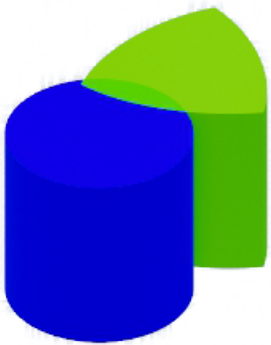
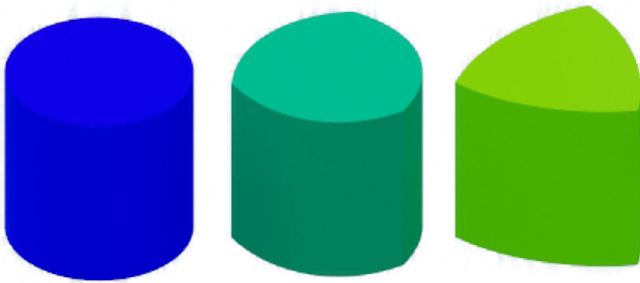
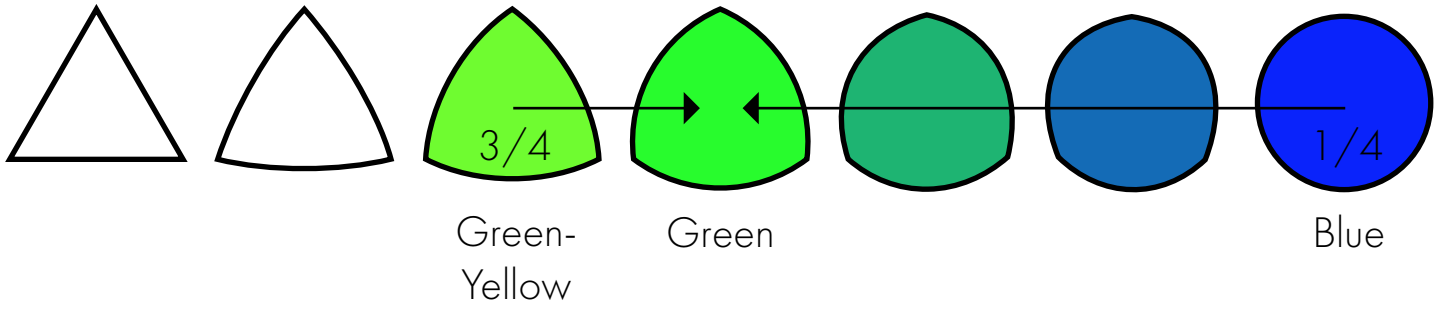
Yellow to Blue: 5 Analogous Colors Test 1b



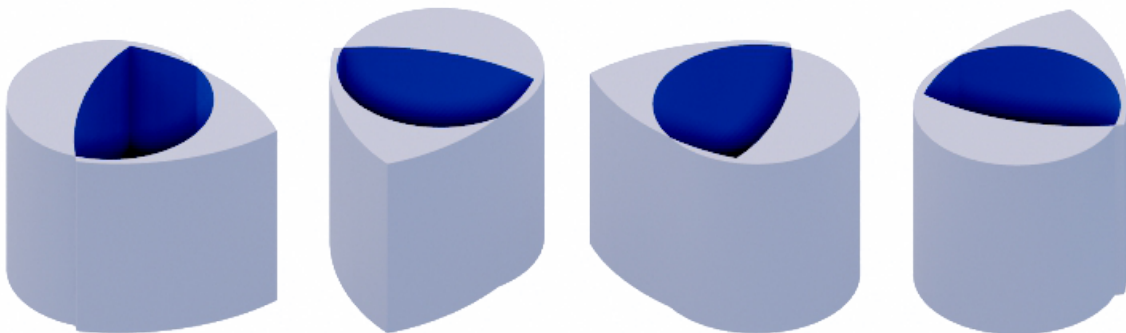
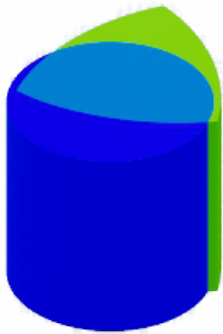
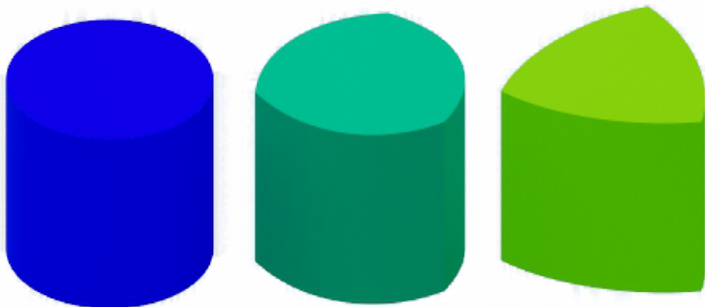
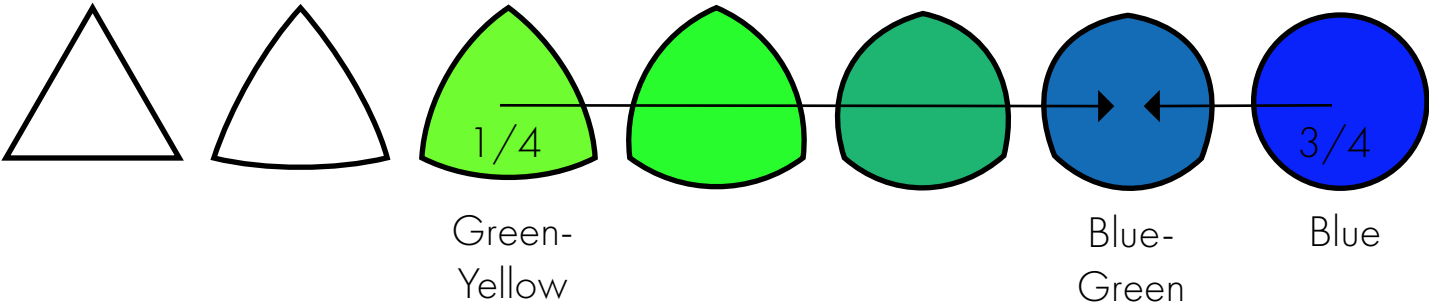
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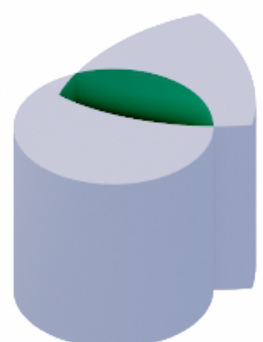
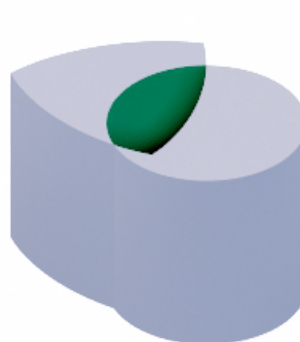
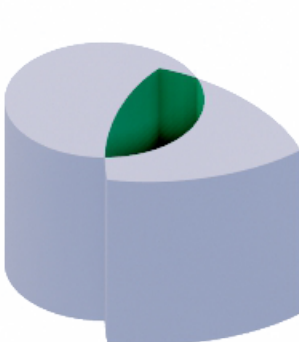
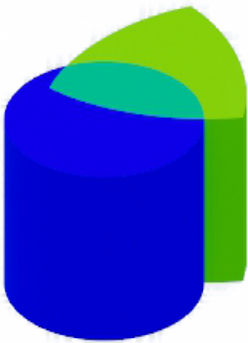
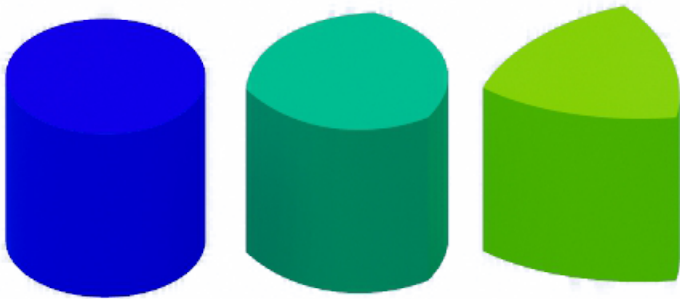
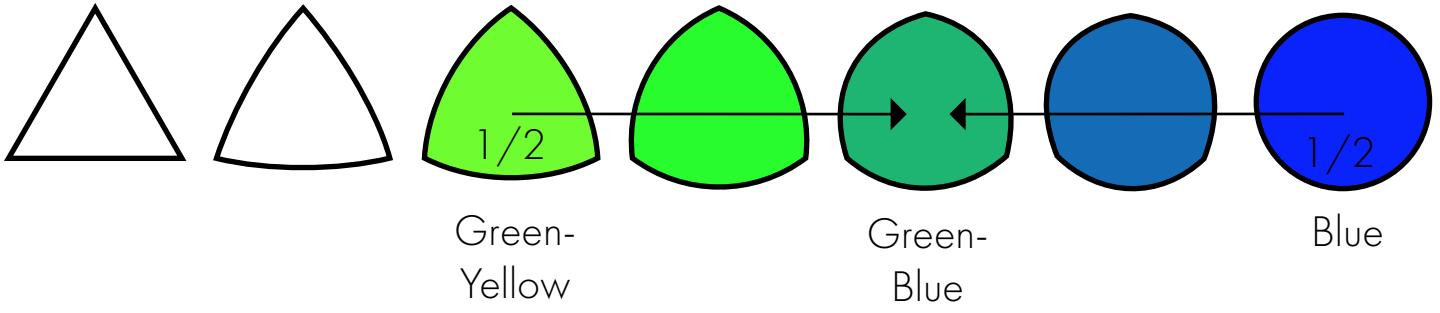
Yellow to Blue: 5 Analogous Colors Test 2a



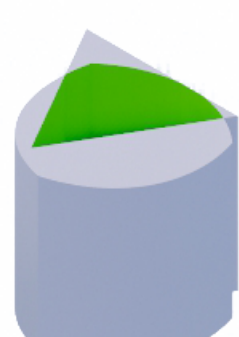
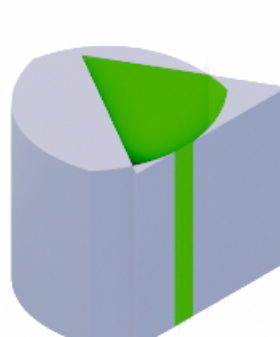
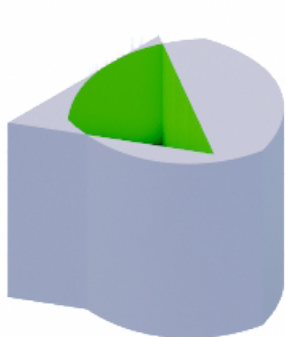
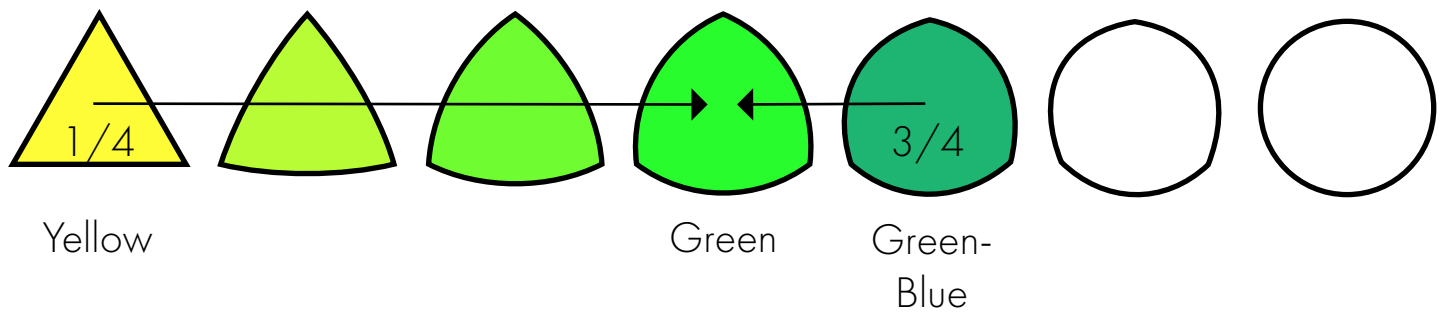
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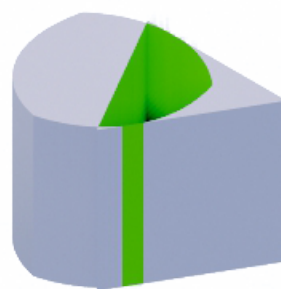
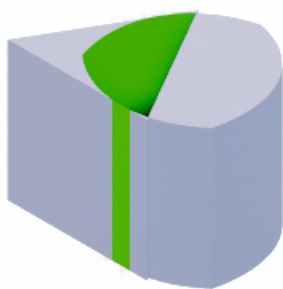
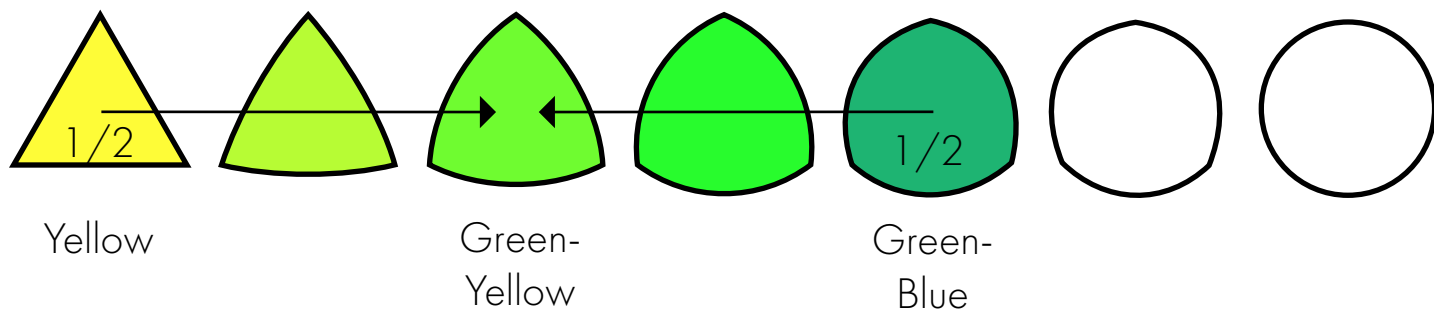
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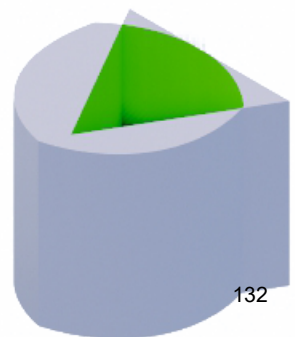
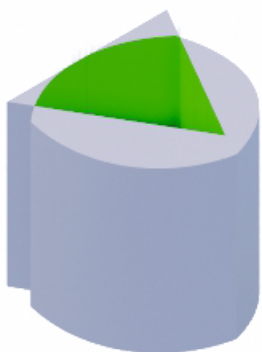
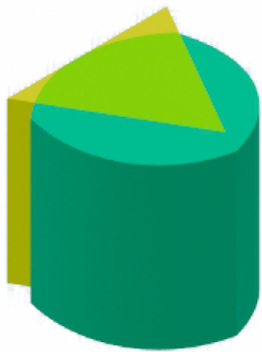
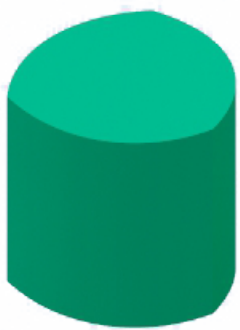
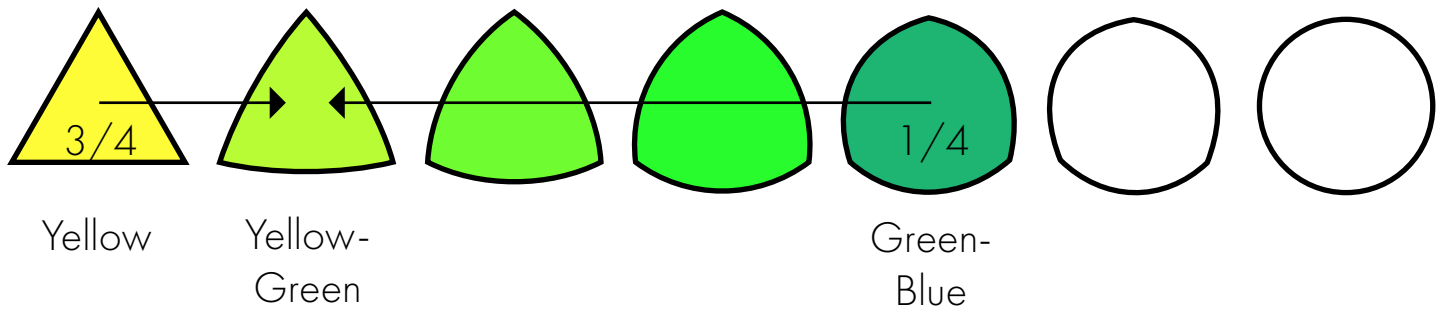
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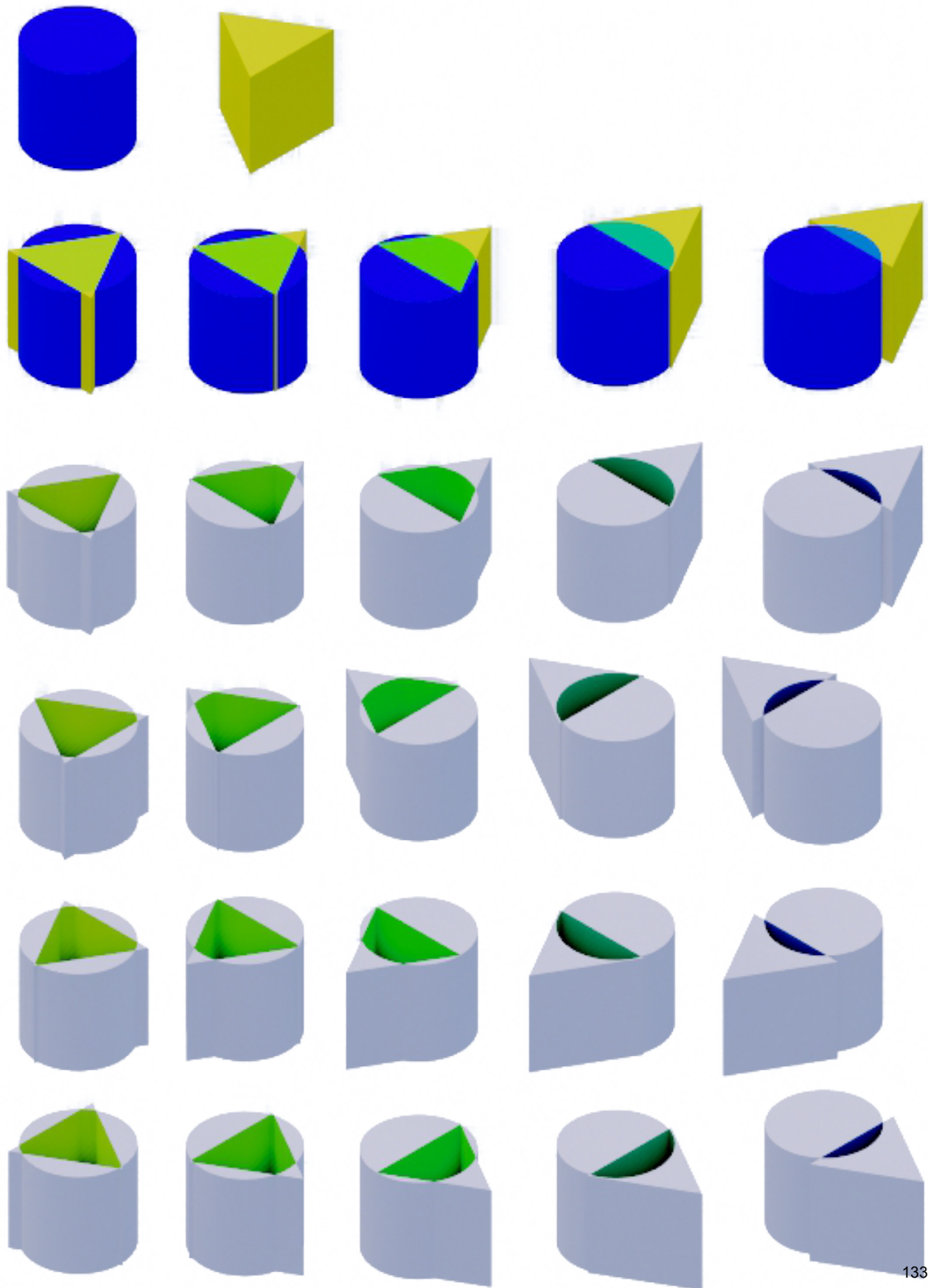
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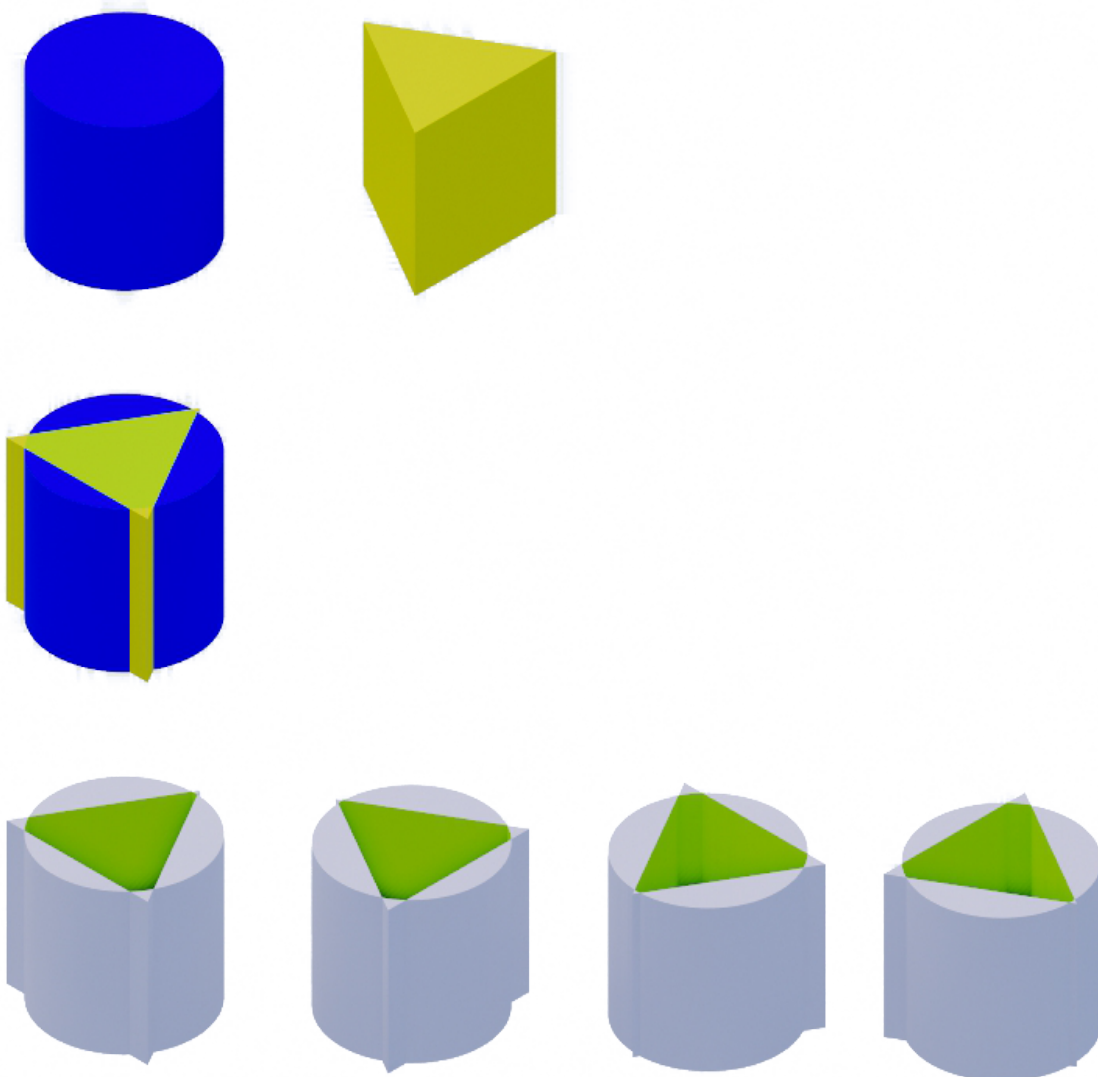
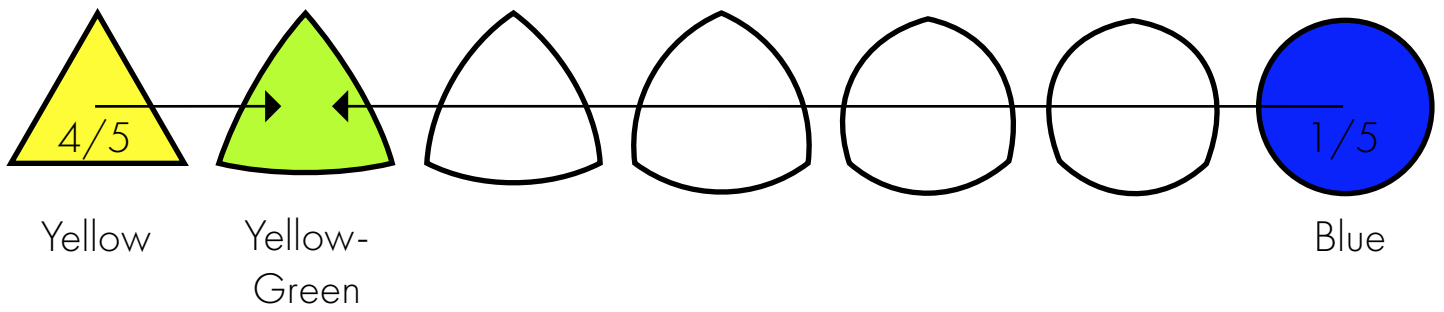
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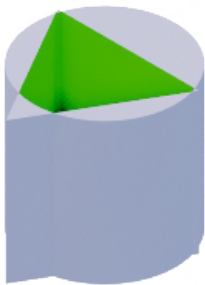
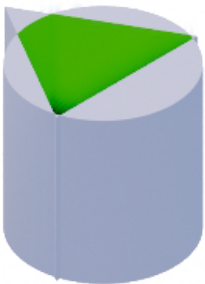
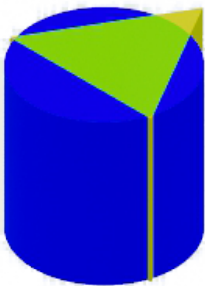
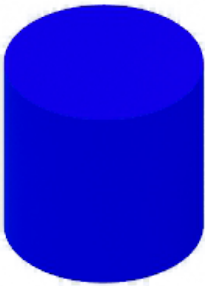
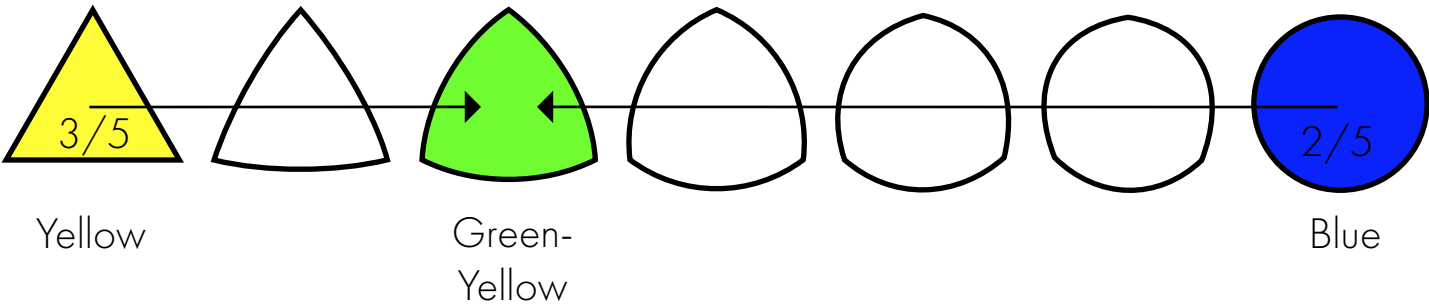
Yellow to Blue: Mixing the Primaries All Tests



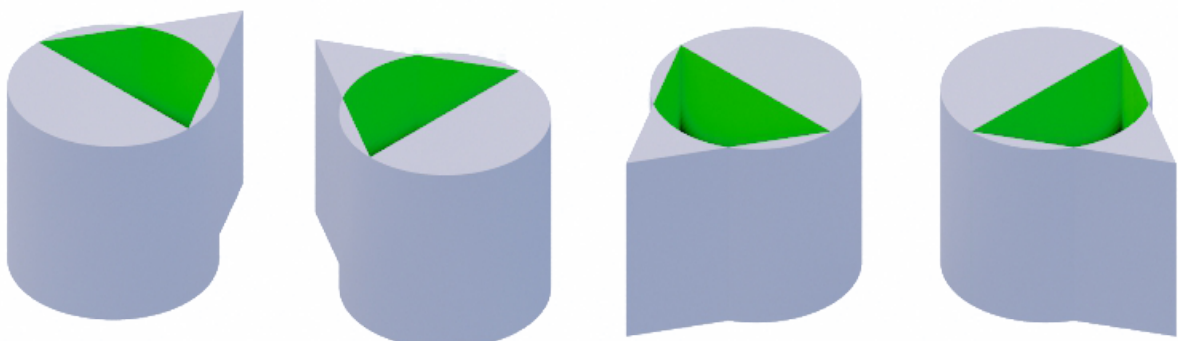
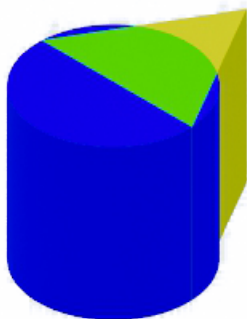
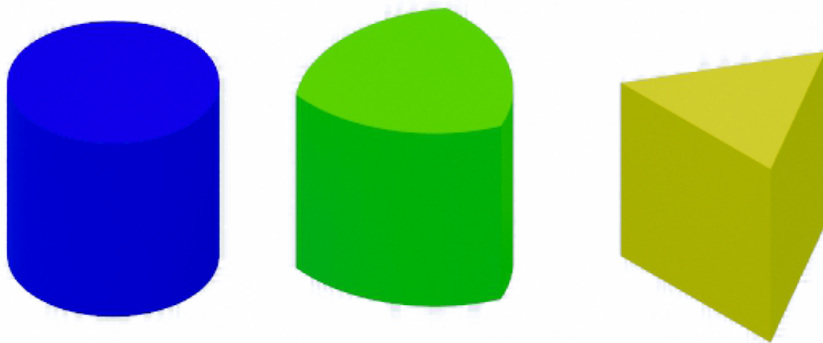
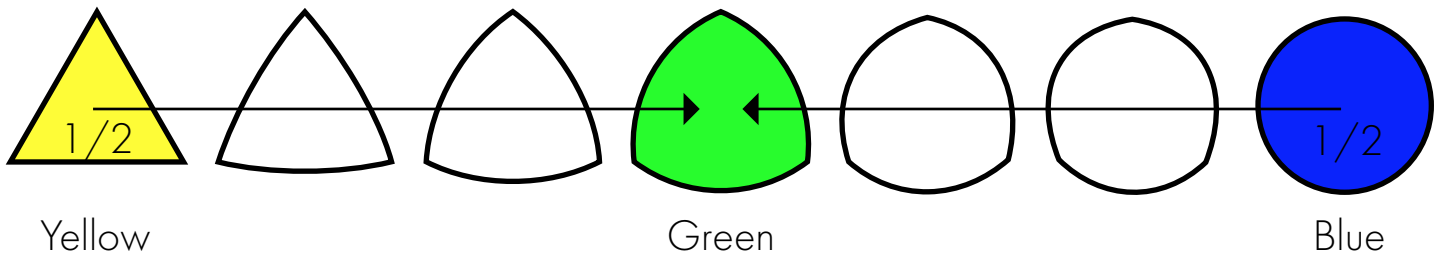
Yellow to Blue: Mixing the Primaries Test 1



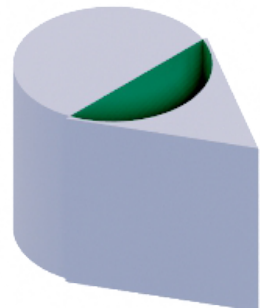
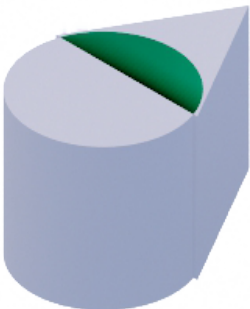
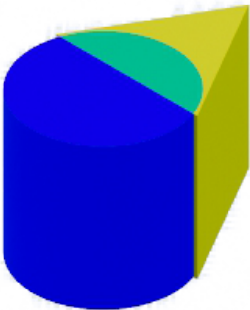
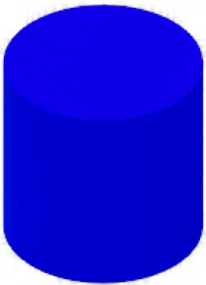
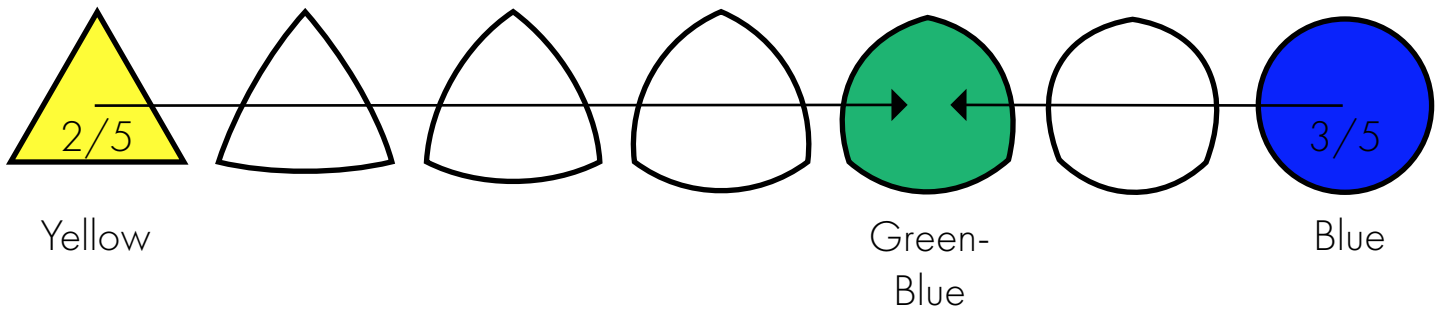
Yellow to Blue: Mixing the Primaries Test 2



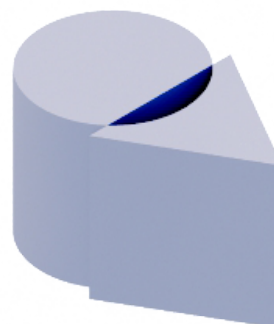
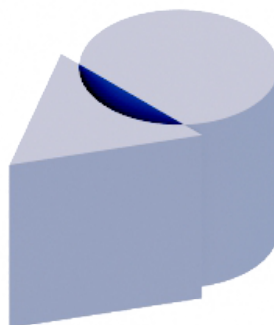
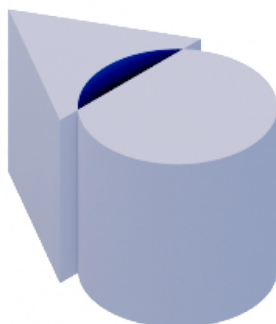
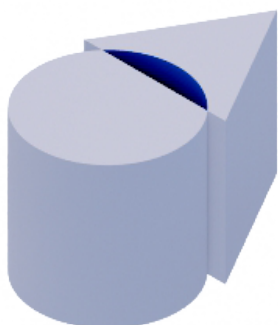
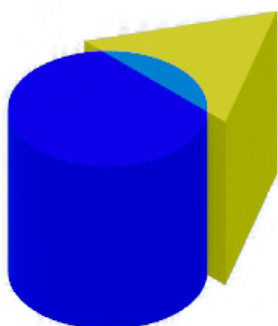
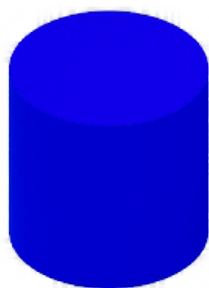
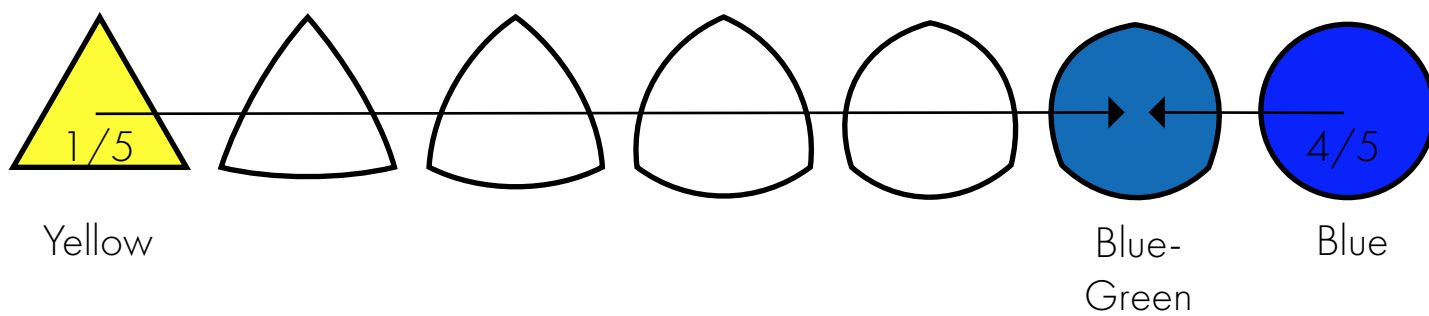
Yellow to Blue: Mixing the Primaries Test 3



Yellow to Blue: Mixing the Primaries Test 4



Yellow to Blue: Mixing the Primaries Test 5



Conclusion

As a main result of this capstone, I developed a system to generate forms specifically from color based on the principles of Johannes Itten. A goal of this capstone was to provide a new way of showing color relationships by showing the changes in their generated spatial forms. This system can be expanded upon and/or rearranged in an iterative process that looks to generate form from color. This capstone tested at least a single variation of each of the color combinations including up to three colors from the developed and utilized Hue Wheel that contained the primary and secondary colors within the first and second series in order to maintain a focus for these tests and produce a thorough outcome.

However, using a *hue wheel* containing more colors, utilizing more than 3 colors at once in a form generation for series 1 and 2, and placing colors at a set horizontal distance instead of vertical are a few ways that this method of generating form from color can be expanded upon. While series 3 did begin to incorporate tertiary colors, more colors do exist which provides room for the continued development of this capstone.

Additionally, changing the foundation of each of the form tests from Johannes Itten's fundamental color and shape theory as the system of form creation would provide a much more different outcome. While this capstone does not employ the connections between color and emotion for the sake of focus and clarity within the produced results, the results can definitely be used later on and applied in association with the connotative emotional qualities of color in continued development of these generated forms.

Nonetheless, the results prove that color can be a form generator, and that the complex characteristics of color and their relationship with each other can generate architectural form. Color is dimensional, and this capstone displays that color can be considered to fill more dynamic and generative roles in form and space creation. The interpretation of the results is that of a series of graphic illustrations that can provide insight for creating space or form with a specific color in mind.

Furthermore, it is important to suggest the opportunities provided by the produced form results. There is great value in designing forms that utilize symbolism within their spatial generation and construction. A prominent component of symbolism with color is color's association with emotion.

The generated forms from this capstone are created from either two or three color combinations in series 1 and 2. If a designer wanted to create a space that evoked two or three specific emotions, they could consider generating the form of the space based on the generated form using the colors that evoke the desired emotions. Figure 6

Red Excitement Strength Love Energy	Orange Confidence Success Bravery Sociability	Yellow Creativity Happiness Warmth Cheer	Green Nature Healing Freshness Quality	Blue Trust Peace Loyalty Competence
Pink Compassion Sincerity Sophistication Sweet	Purple Royalty Luxury Spirituality Ambition	Brown Dependable Rugged Trustworthy Simple	Black Formality Dramatic Sophistication Security	White Clean Simplicity Innocence Honest

¹⁴ Fig. 6. Color Psychology and Color-Emotion Associations

displays the typical emotions associated with common colors. For example, using the test results from this capstone, if a designer wanted to create a space that had the presence of the emotions spirituality and creativity, they could generate the form using the color purple which is symbolic of spirituality and the color yellow which is symbolic of creativity. This application would be a straight-forward way to use the results in the form generation process of design.

However, inspired by Josef Albers, “the more a creative use of color developed, the less desirable became a merely trustful and obedient application”¹⁵, the applications of this capstone could become more complex. Considering the science behind mixing colors shown in series 3, if a designer wanted to create a space that evoked the emotion of healing, which is a symbolic characteristic of the color green, the designer

¹⁴ Raspberry, Hossein. Color Psychology and Color-Emotion Associations. UXStudioTeam.com. UX Studio. <https://uxstudioteam.com/ux-blog/color-psychology-in-ux-design/>. 2019.

¹⁵ Albers, Josef. Interaction of Color. 4th ed. New Haven and London. Yale University Press, 1972.

could simply use the shape associated with green as assigned by Johannes Itten in the fundamental shape and color diagram, or the designer could mix the colors yellow and blue, using their associated shapes, together to create a form that feels 'green' and evokes healing. Series 3 integrated further to display potential ways the forms generated from color could be expanded upon. Figure 7 below shows the possibility of using all primary colors together with their $\frac{1}{2}$ and equal overlap to create the secondary colors. Figures 8-14 display how aggregating the generated forms as a type of module could expand the spatial usages of these findings. All aggregations use the grid that becomes established when repeating each of the forms as a module. Figures 15-17 explore aggregations that are vertical as well horizontal.

Both spatial and symbolic, color is an incredible design tool. Furthermore, color is relevant and in need of being incorporated more due to the spatial characteristics and dimensional qualities of color. The use of color in architectural design should not be restricted to solely surface applications but be treated as another spatial tool as exemplified in this capstone.

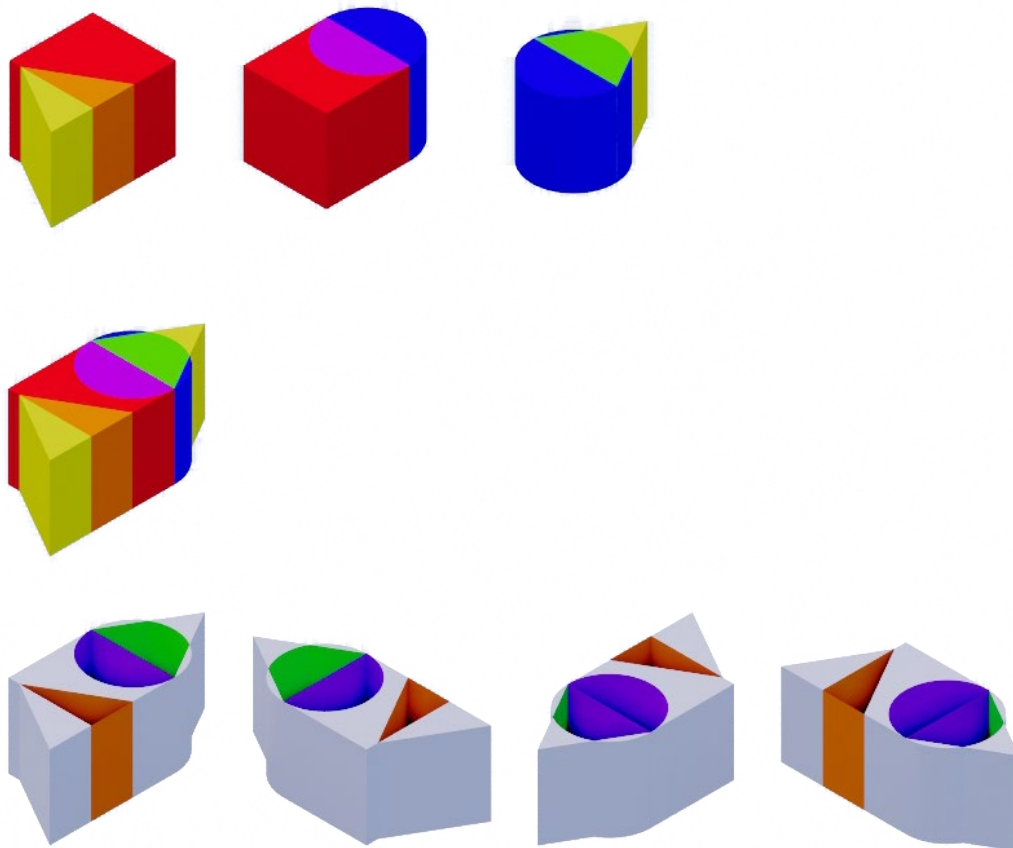


Fig. 7. Mixing the 3 Primary Colors to Form the 3 Secondary Colors

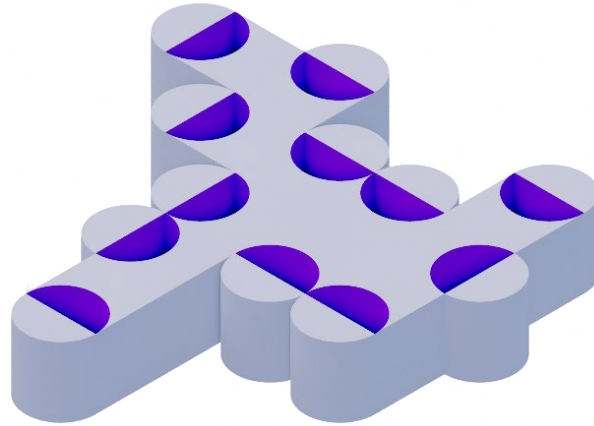
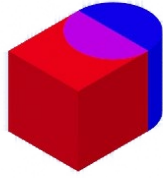


Fig. 8. Mixing $\frac{1}{2}$ Red and $\frac{1}{2}$ Blue to Form Purple, Aggregated

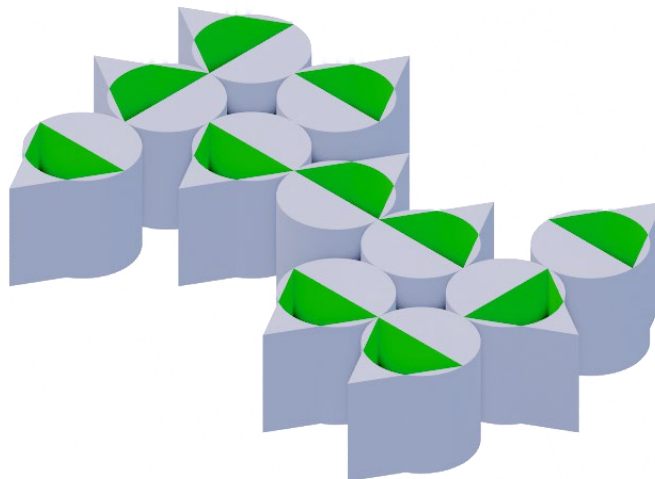
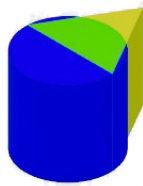


Fig. 9. Mixing $\frac{1}{2}$ Blue and $\frac{1}{2}$ Yellow to Form Green, Aggregated

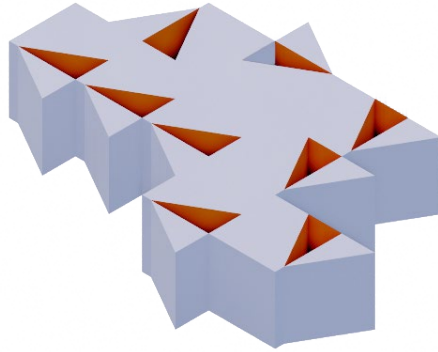


Fig. 10. Mixing $\frac{1}{2}$ Red and $\frac{1}{2}$ Yellow to Form Orange, Aggregated

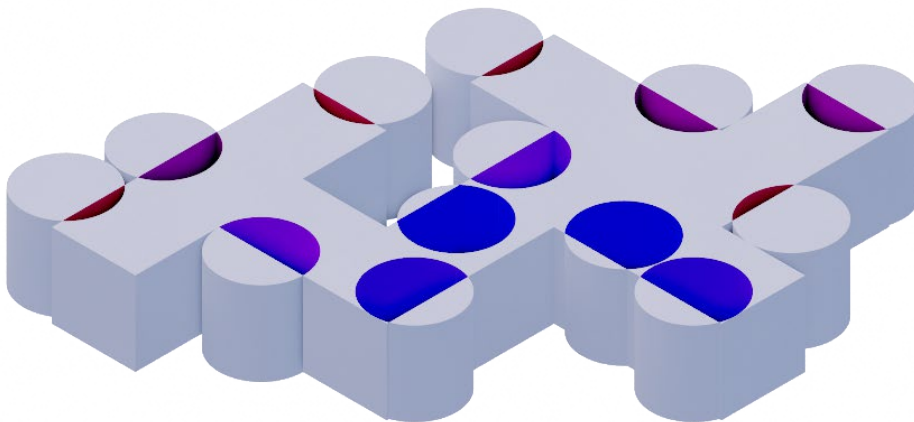
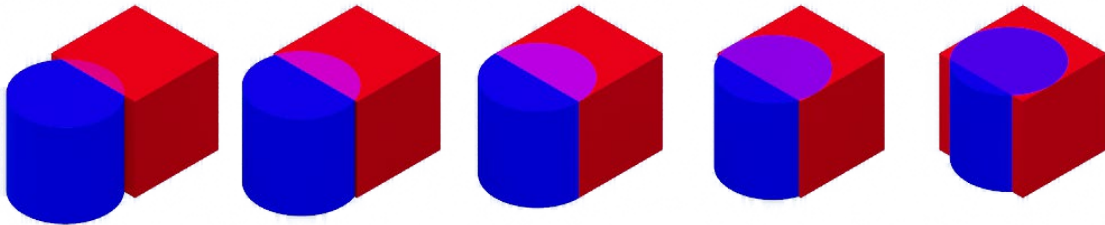


Fig. 11. Mixing Red and Blue, All Hues From Series 3, Aggregated

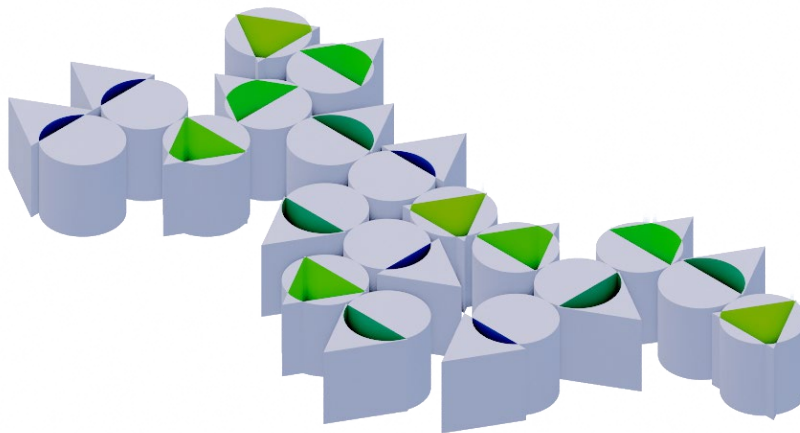
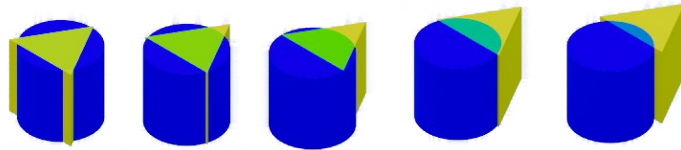


Fig. 12. Mixing Yellow and Blue, All Hues From Series 3, Aggregated

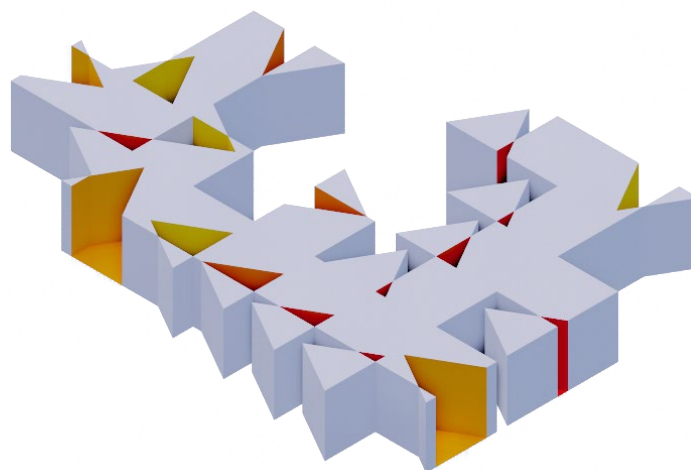


Fig. 13. Mixing Red and Yellow, All Hues From Series 3, Aggregated

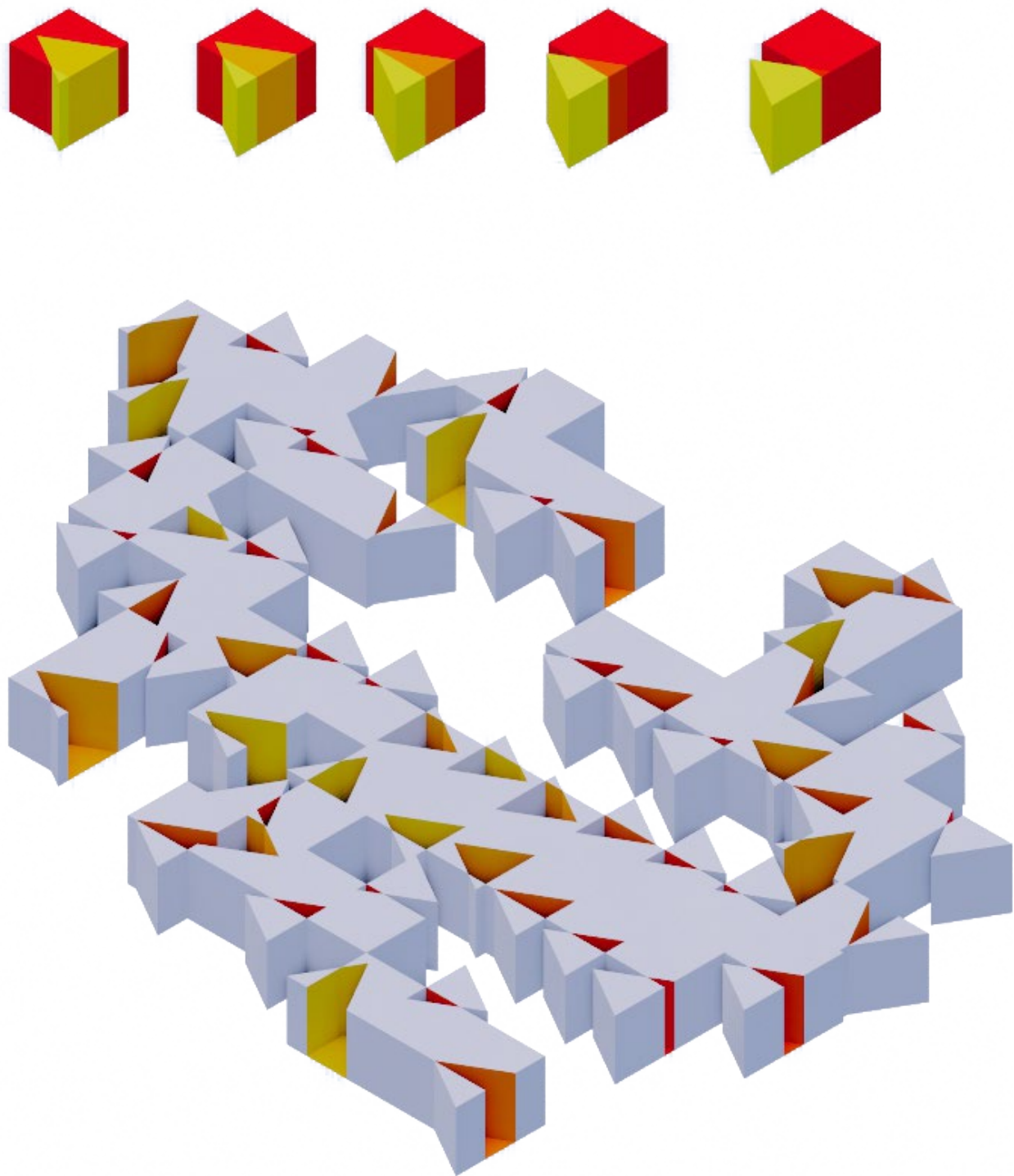


Fig. 14. Mixing Red and Yellow, All Hues From Series 3, Aggregated Version 2

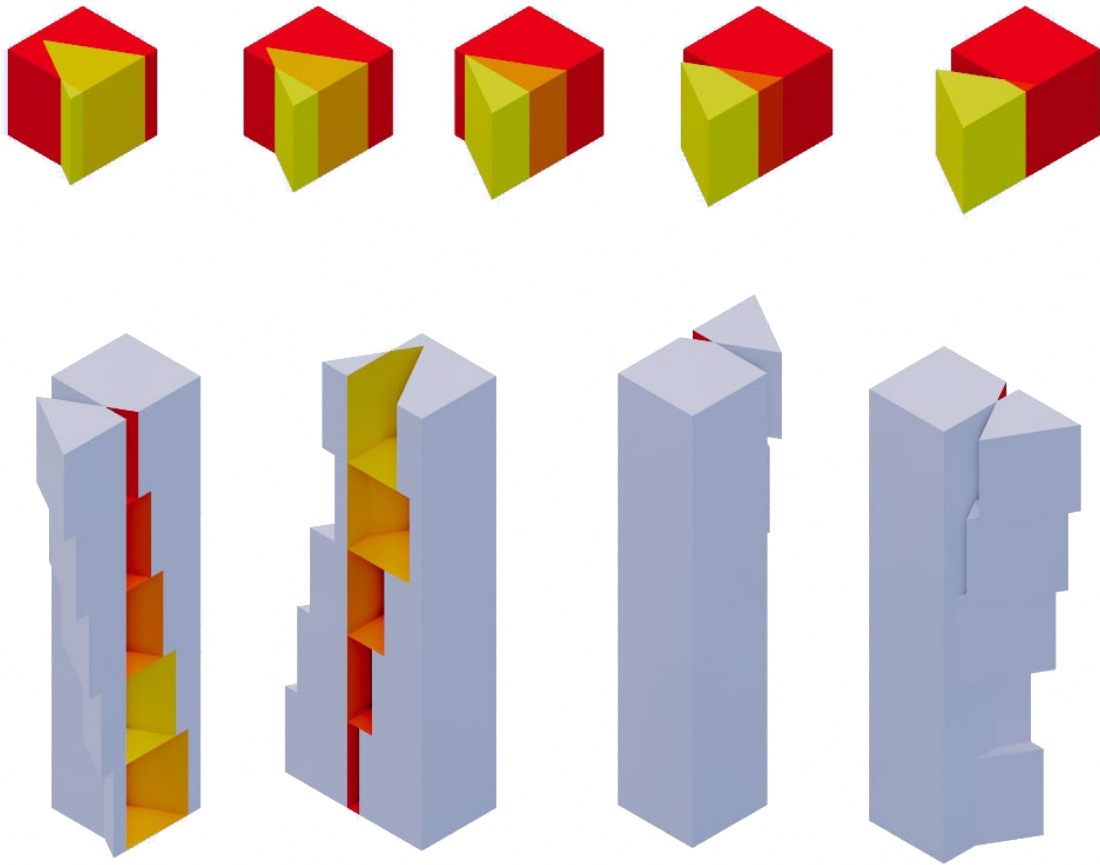


Fig. 15. Mixing Red and Yellow, All Hues from Series 3, Aggregated Vertically

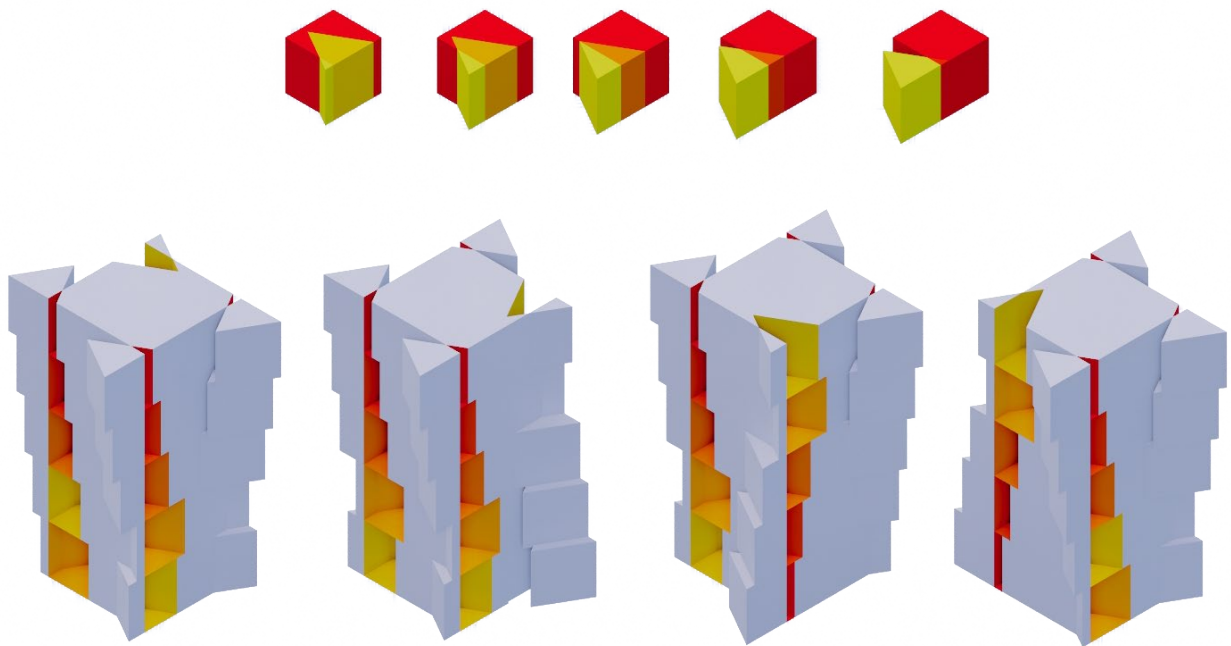


Fig. 16. Mixing Red and Yellow, All Hues from Series 3, Aggregated Vertically 2

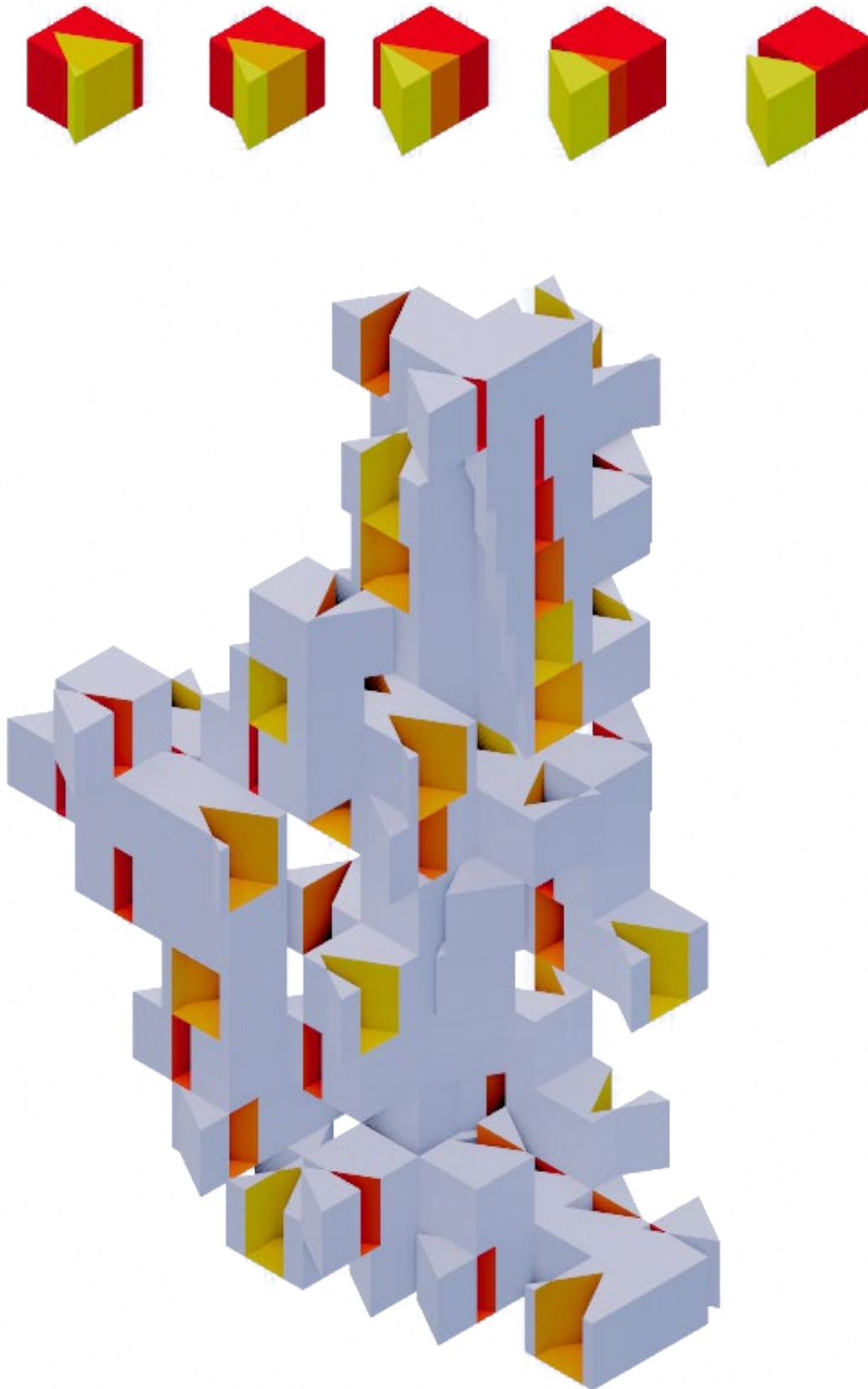


Fig. 17. Mixing Red and Yellow, All Hues from Series 3, Aggregated Vertically 3

Discussion

Following the defense of my capstone, I wanted to incorporate some of the valued discussion I had with panel members about potential ways this capstone could be edited to then be developed further. Due to Figure 11 being a favorite, a larger version of this aggregation was created for the discussion, shown in Figure 18 below.

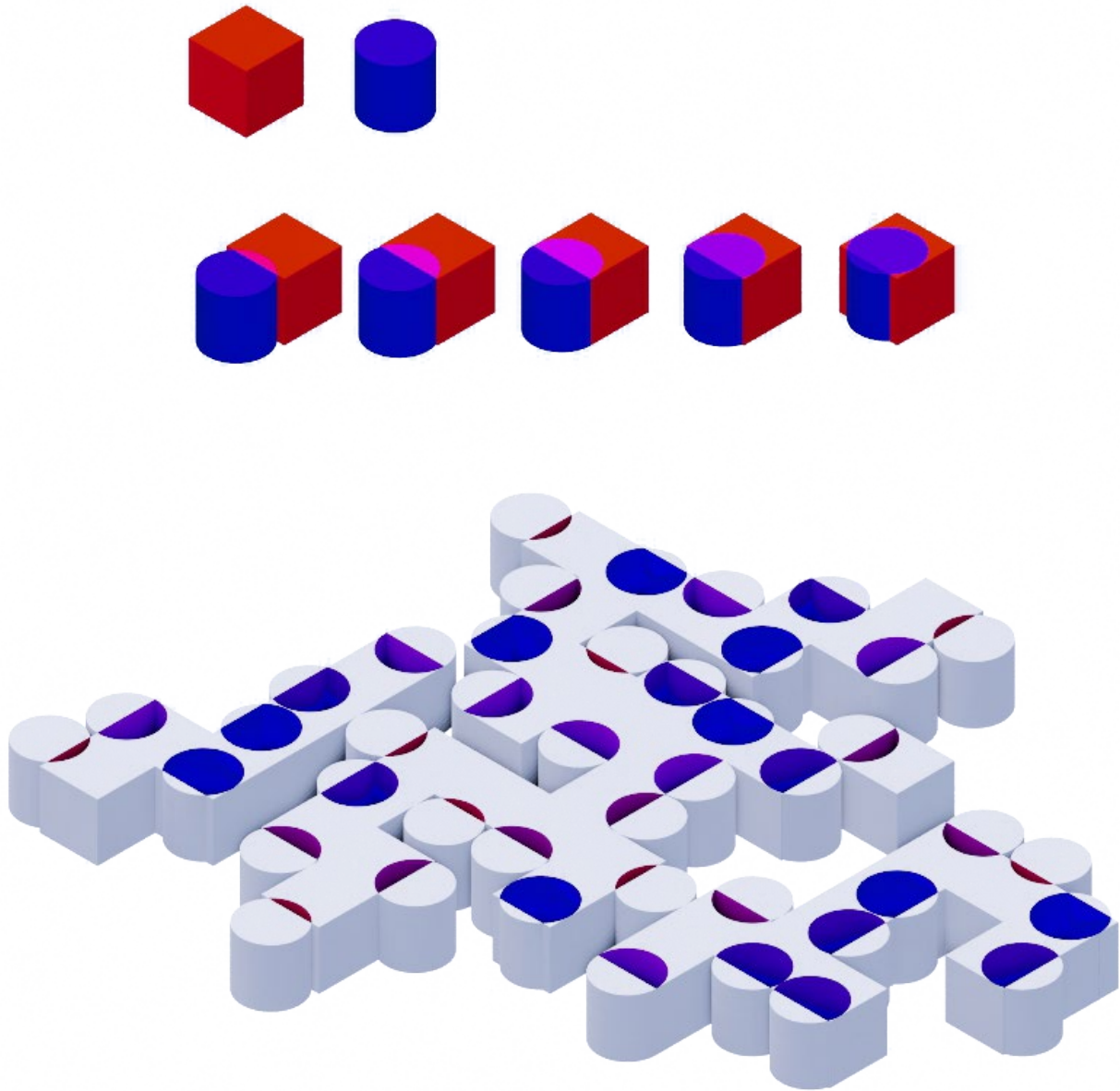


Fig. 18. Mixing Red and Blue, All Hues from Series 3, Aggregated 2

Figures 19-21 show the possibilities of the generated forms from series 3 were they to be rotated in order to show the extrusions with reference to a different theoretical ground plane.

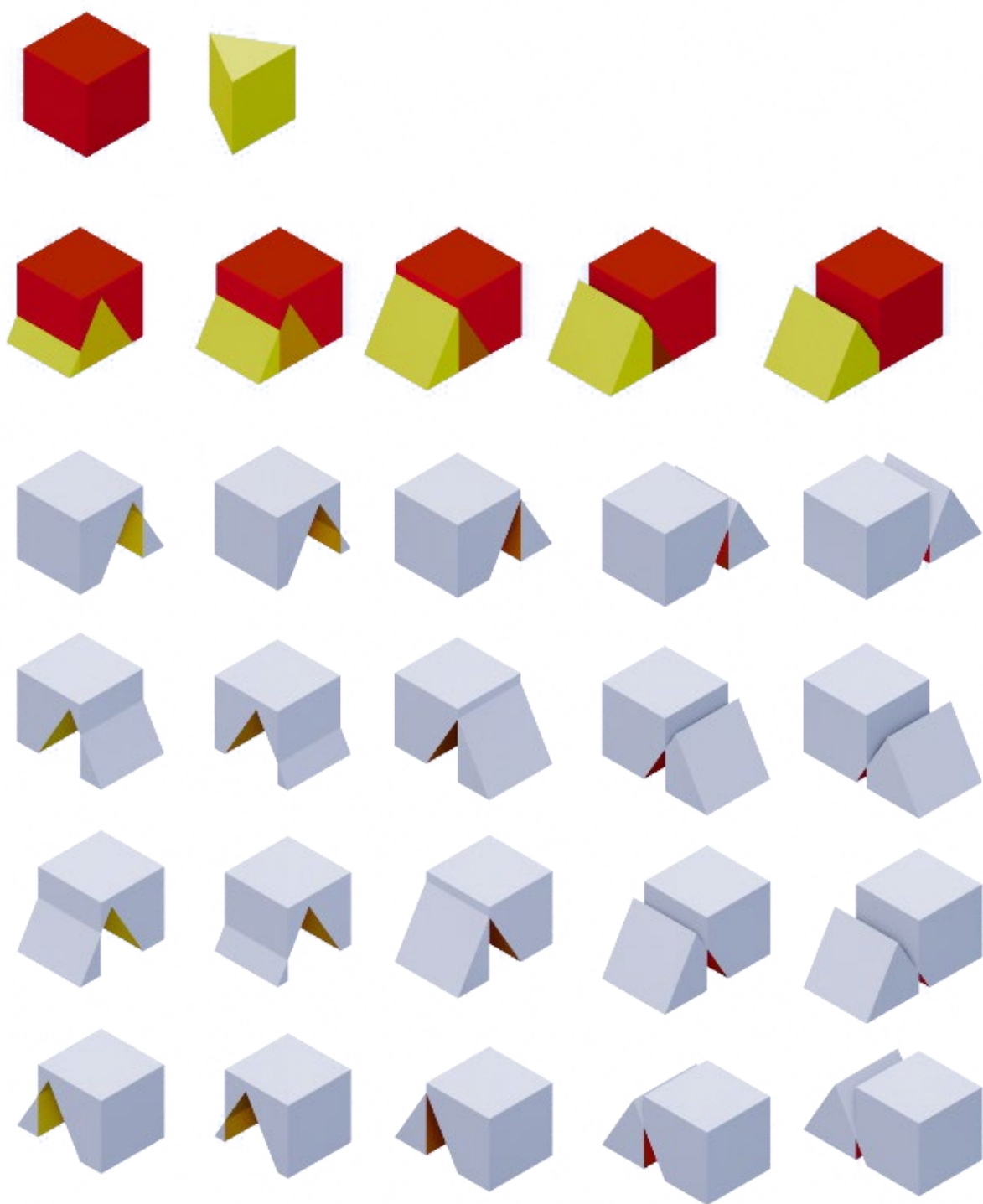


Fig. 19. Mixing Red and Yellow, All Hues from Series 3, Rotated

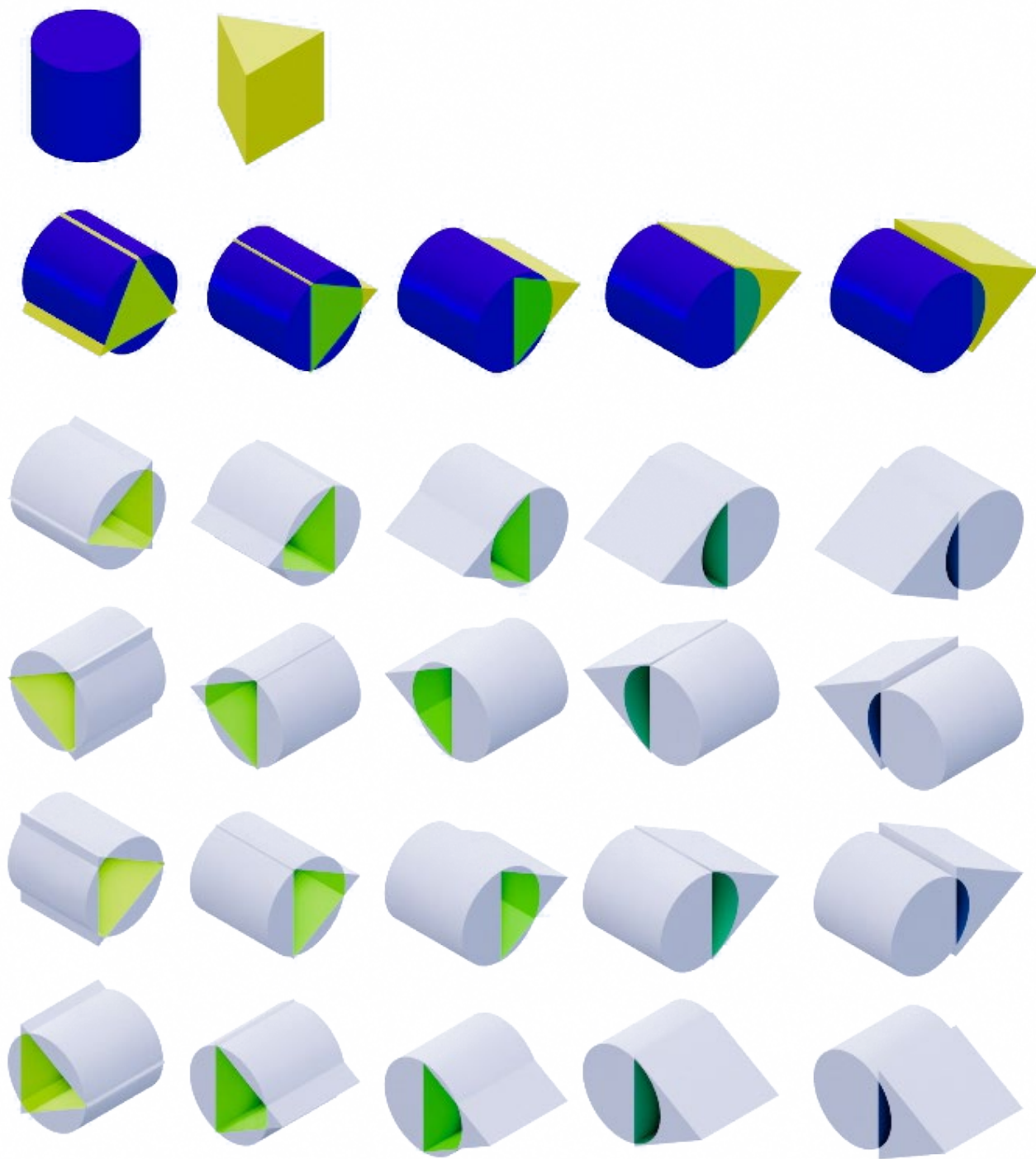


Fig. 20. Mixing Blue and Yellow, All Hues from Series 3, Rotated

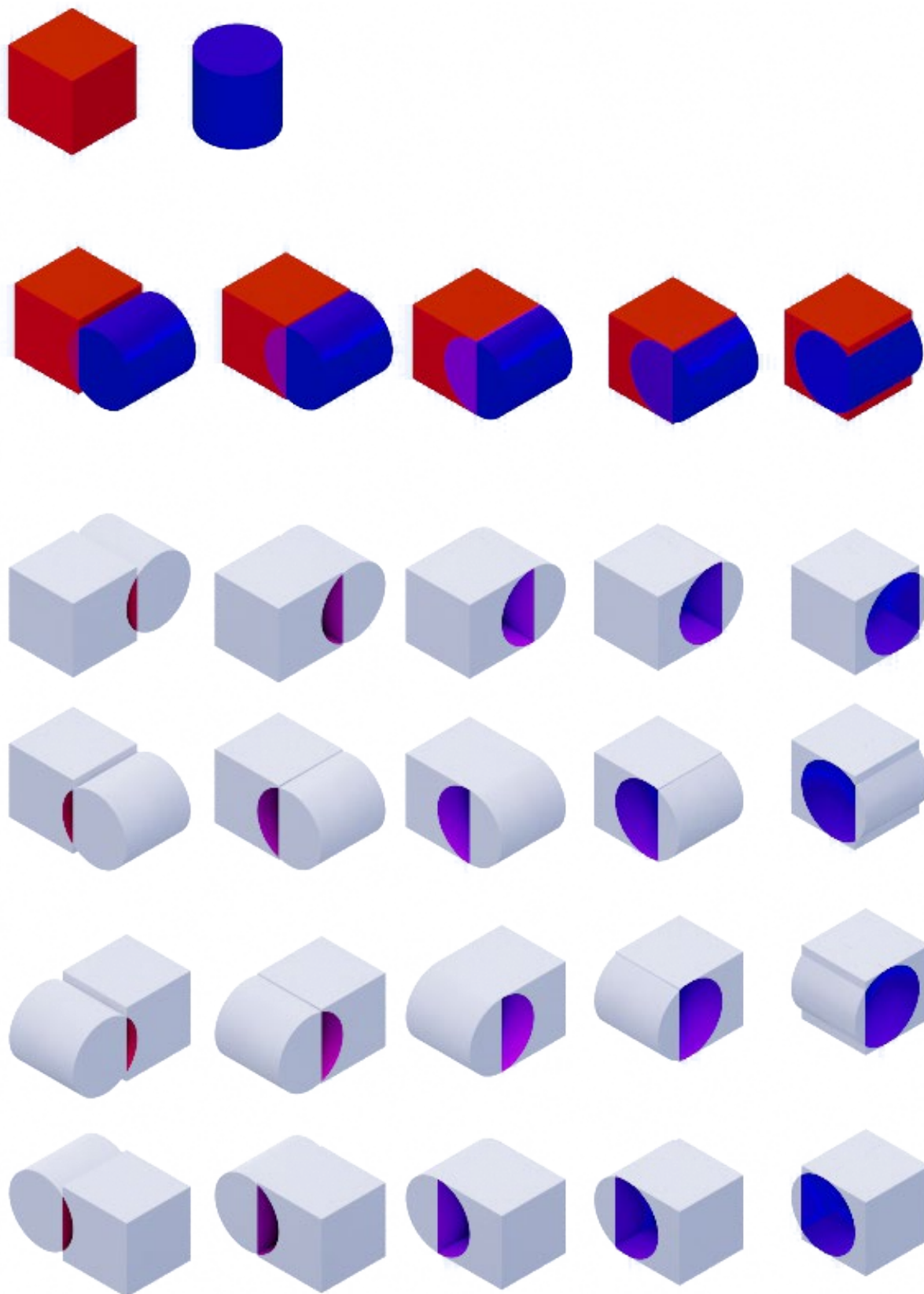


Fig. 21. Mixing Blue and Red, All Hues from Series 3, Rotated

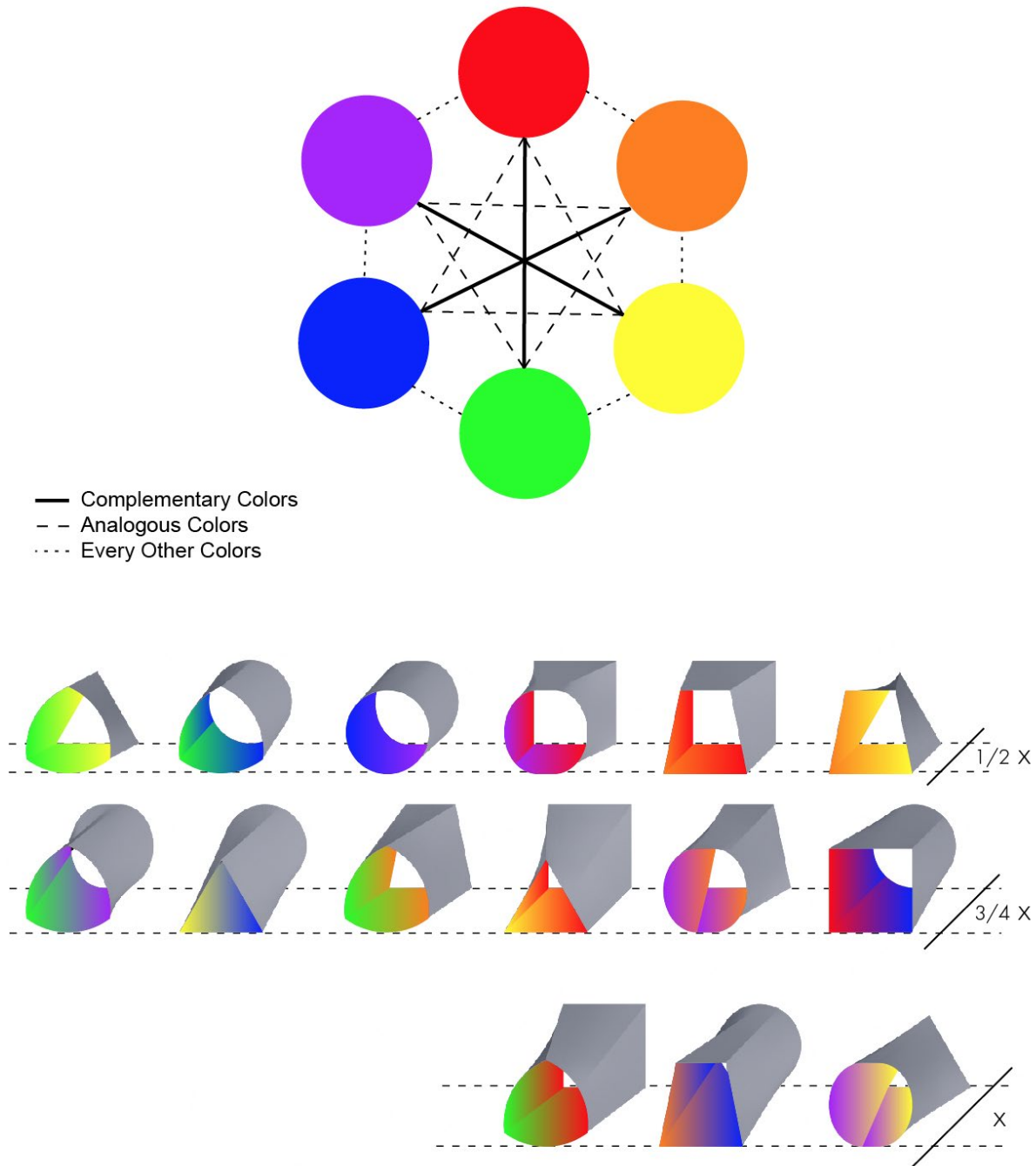


Fig. 22. Series 1, Oblique View with Length Variations Incorporated

Figure 22 takes the suggestion from series 1 and 2 of showing the shapes in Oblique instead of Isometric View so the shapes representing each color are not distorted. Figure 22 is also rotated in the way suggested for Figures 19-21 that creates a different ground plane condition for the forms then what was explored in the series with this capstone. During the defense discussion, it was also suggested that the extrusion distance would not be the same for all color combinations. Figure 22 shows the complementary color combinations of red and green, blue and orange, and yellow

and purple labeled as x. As these color combinations were furthest from each other on the color wheel, their form extrusion distance should be the longest parameter. The row of 1/2x represents the analogous colors in the color wheel created for this capstone and is the shortest distance parameter because these are the colors adjacent to each other.

While the conclusion of this capstone already mentioned ways of further development, the defense discussion provided insight into a clearer way of progressing forward with these forms and thus spaces being generated from color. Figure 22 is a great example of not only a different type of graphics that could be explored, but also creating three-dimensional form based on the complexity of color relationships. Before my panel discussion, I had only really considered mixing colors that would actually create another specified color. However, there is possibility in combining all colors without the result producing a “muddy” color, which is something I hadn’t considered before.

Just as my panel discussed that you can’t have space without form or form without space, this capstone shows that you can’t have color without considering form and space. Color is spatial, and I am excited to see where this capstone can go.

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