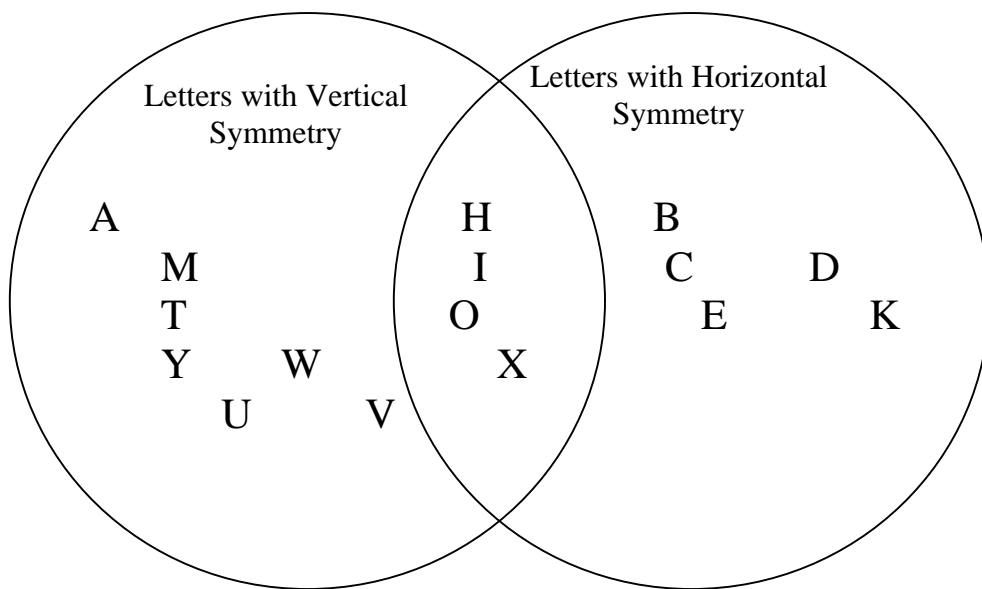


Activity 2: Graphic Design: Using Symmetry to Create Corporate Logos Solutions



2. a. The logo has reflection symmetry across a vertical line through its center. The logo is made up of three ellipses. The two inner ellipses are 90 degree rotations of each other.



b. While the logo does not have rotation or reflection symmetry, it was created using rotation and translation. The basic double-U shape is rotated 90 degrees, then translated.



c. The logo has both vertical and horizontal reflection symmetry.



d. The logo has horizontal reflection symmetry across a vertical line through its center. It also has rotation symmetry. Rotating it 120 degrees gives you the same design. It can be created by taking the basic diamond shape and rotating it 120 degrees two times.

e. Rotation symmetry is evident in this logo. Rotate it 90 degrees, and the same design is the result. The logo can be created by taking the basic three white parallelogram shapes and rotating them 120 degrees.



f. Rotating this design 180 degrees produces the exact same image. This logo has rotation symmetry but not reflection. It might have been created using a 180 degree rotation of the original figure.



g. If the letters B, M, and W were removed, this logo would have rotation symmetry. It lacks reflection symmetry because of the blue and white colors in the center.



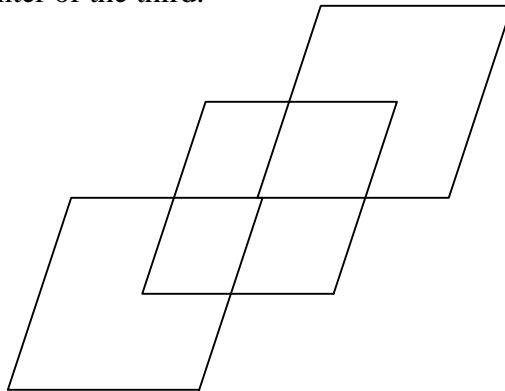
h. The logo has reflection symmetry across a vertical line through its center. If the circle around it were complete, it would also have rotation symmetry. It can be created by rotating the smaller triangle and translating other shapes.

i. This logo lacks reflection and rotation symmetry, but was created by translating the face shape three times to the right placing each in the back.

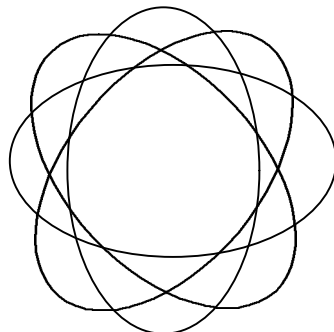


3. Designs will vary. Below are some sample responses. Encourage students to mix shapes, though each example below was created with one basic shape.

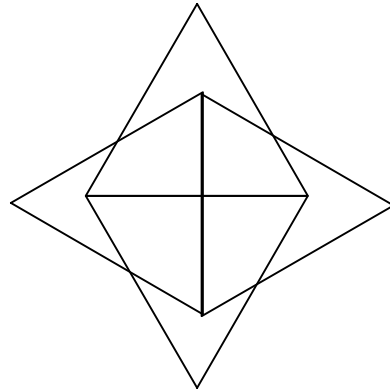
This first was achieved using translation. Two parallelograms were translated so their corners met at the center of the third.



The next design was achieved using rotation. One ellipse was left as it was, three others were rotated 45, 90, and 135 degrees respectively and superimposed on the original.



The final figure was achieved by a combination of reflection and rotation. One original triangle was first placed on the page, an identical copy was reflected horizontally. Two triangles were rotated 90 degrees. One left in place, the other reflected vertically. The base of each triangle was superposed, then the rotated group was superimposed over the center of the base of the other pair.



Students should be encouraged to use color to enhance their designs:

