Plot the ordered pairs given in the table to make six different figures. Draw each figure on a separate sheet of graph paper. Connect the points with line segments as follows:

- For Set 1, connect the points in order. Connect the last point in the set to the first point in the set.
- For Set 2, connect the points in order. Connect the last point in the set to the first point in the set.
- For Set 3, connect the points in order. Do not connect the last point in the set to the first point in the set.
- For Set 4, make a dot at each point (do not connect the dots).

Figure 1
Set 1
(6, 4)
(6, -4)
(-6, -4)
(-6, 4)
Set 2
(1, 1)
(1, -1)
(-1, -1)
(-1, 1)
Set 3
(4, -2)
(3, -3)
(-3, -3)
(-4, -2)
Set 4
(4, 2)
(-4, 2)

Figure 2
Set 1
(12, 8)
(12, -8)
(-12, -8)
(-12, 8)
Set 2
(2, 2)
(2, -2)
(-2, -2)
(-2, 2)
Set 3
(8, -4)
(6, -6)
(-6, -6)
(-8, -4)
Set 4
(8, 4)
(-8, 4)

Figure 3
Set 1
(18, 4)
(18, -4)
.(-18, -4)
(-18, 4)
Set 2
(3, 1)
(3, -1)
(-3, -1)
(-3, 1)
Set 3
(12, -2)
(9, -3)
(-9, -3)
(-12, -2)
Set 4
(12, 2)
(-12, 2)

Figure 4
Set 1
(18, 12)
(18, -12)
(-18, -12)
(-18, 12)
Set 2
(3, 3)
(3, -3)
(-3, -3)
(-3, 3)
Set 3
(12, -6)
(9, -9)
(-9, -9)
(-12, -6)
Set 4
(12, 6)
(-12, 6)

Figure 5
Set 1
(6, 12)
(6, -12)
(-6, -12)
(-6, 12)
Set 2
(1, 3)
(1, -3)
(-1, -3)
(-1, 3)
Set 3
(4, -6)
(3, -9)
(-3, -9)
(-4, -6)
Set 4
(4, 6)
(-4, 6)

Figure 6
Set 1
(8, 6)
(8, -2)
(-4, -2)
(-4, 6)
Set 2
(3, 3)
(3, 1)
(1, 1)
(1, 3)
Set 3
(6, 0)
(5, -1)
(-1, -1)
(-2, 0)
Set 4
(6, 4)
(-2, 4)

After drawing the six figures, compare Figure 1 to each of the other figures and answer the following questions.

1. Which figures are similar? Use the definition of similar figures to justify your response.

2. Describe any similarities and/or differences between Figure 1 and each of the similar figures.
   - Describe how corresponding sides compare.
   - Describe how corresponding angles compare.

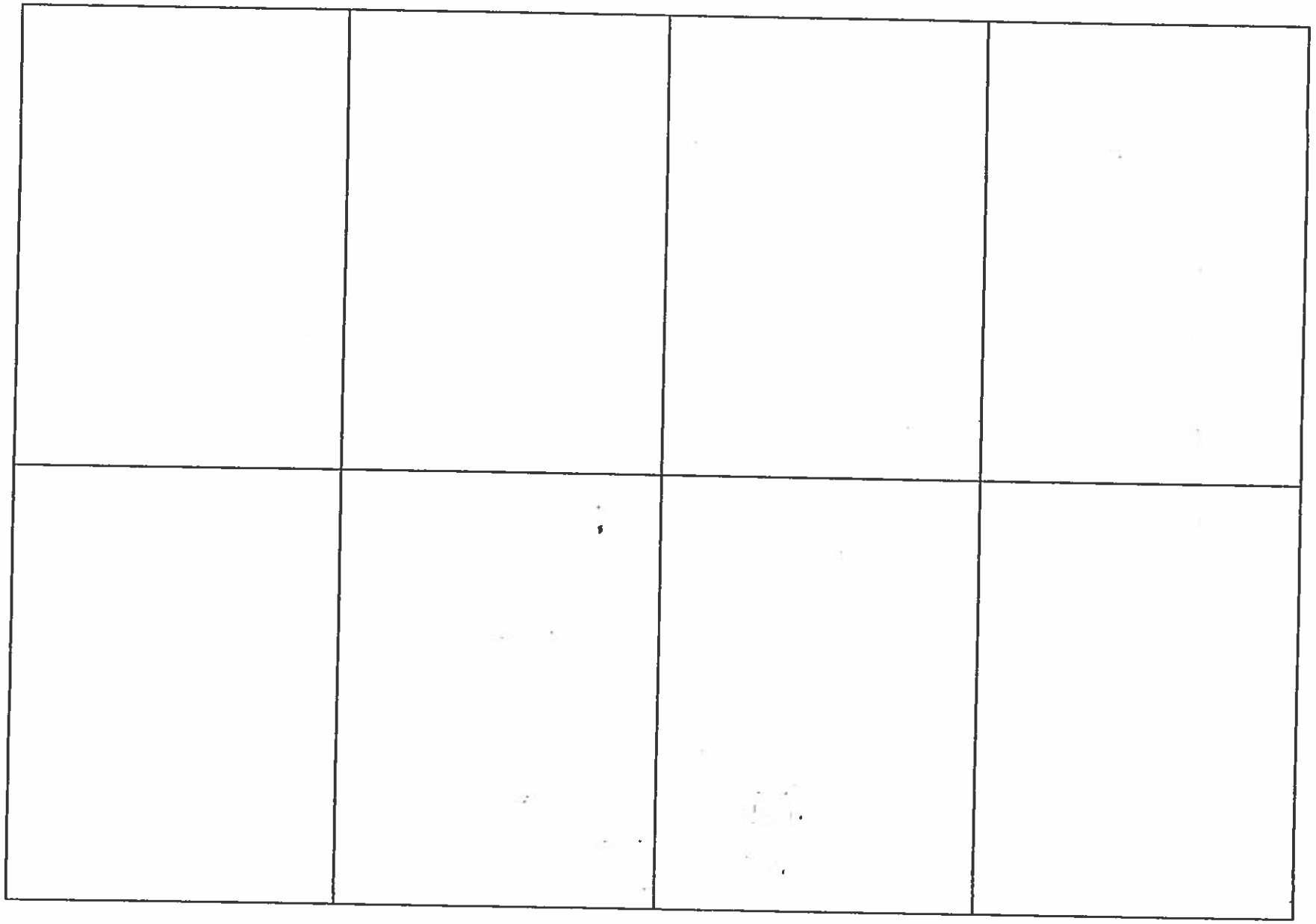
3. How do the coordinates of each similar figure compare to the coordinates of Figure 1? Write general rules for making the similar figures.

4. Is having the same angle measurement enough to make two figures similar? Why or why not?

5. What would be the effect of multiplying each of the coordinates in Figure 1 by ½?

6. Create a similar Figure 7 to Figure 1 where the center of dilation is not the origin but (-6, -4) instead. Also Figure 7 is twice as big as Figure 1. What are the sets of points used to create Figure 7?

Vocabulary – Frayer Model



Vocabulary – Frayer Model