Lesson 5 Assignment

Transformations

Work slowly and carefully. If you are having difficulty, go back and review the appropriate *Lesson*.

For full marks, show all calculations, steps, and/or explain your answers.

Total: 16 marks.

*For questions 1 to 4, select the **best** answer to each question.*

*Select the **best** answer for multiple-choice questions 1 and 2, choose the letter of your answer and write it on the line provided.*

1. _____   1.   What two transformations were applied to the picture of the cat and dog to obtain the image?
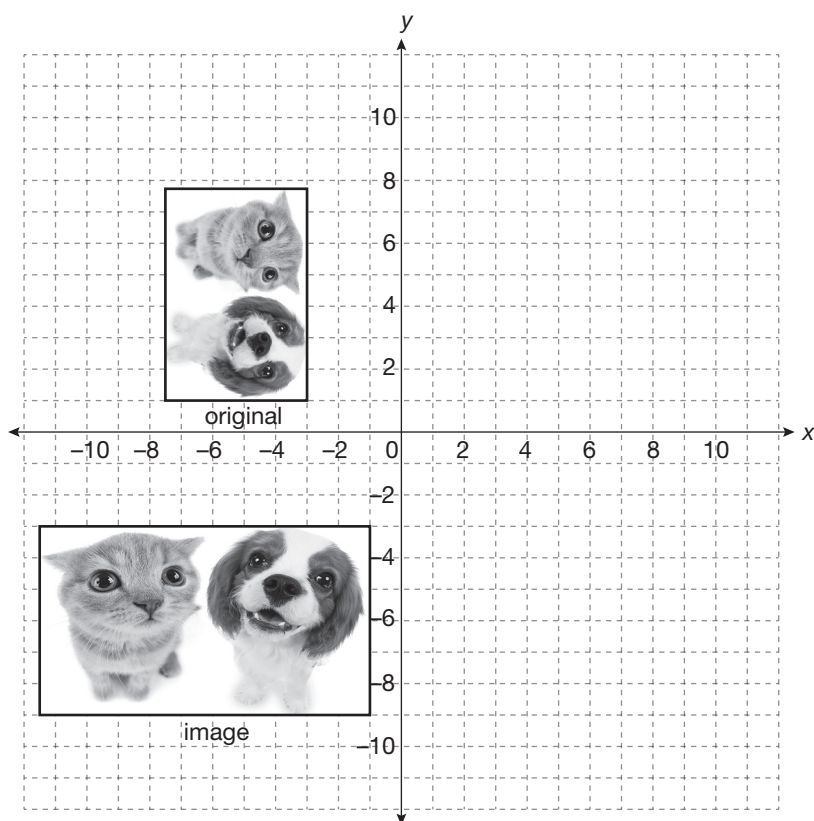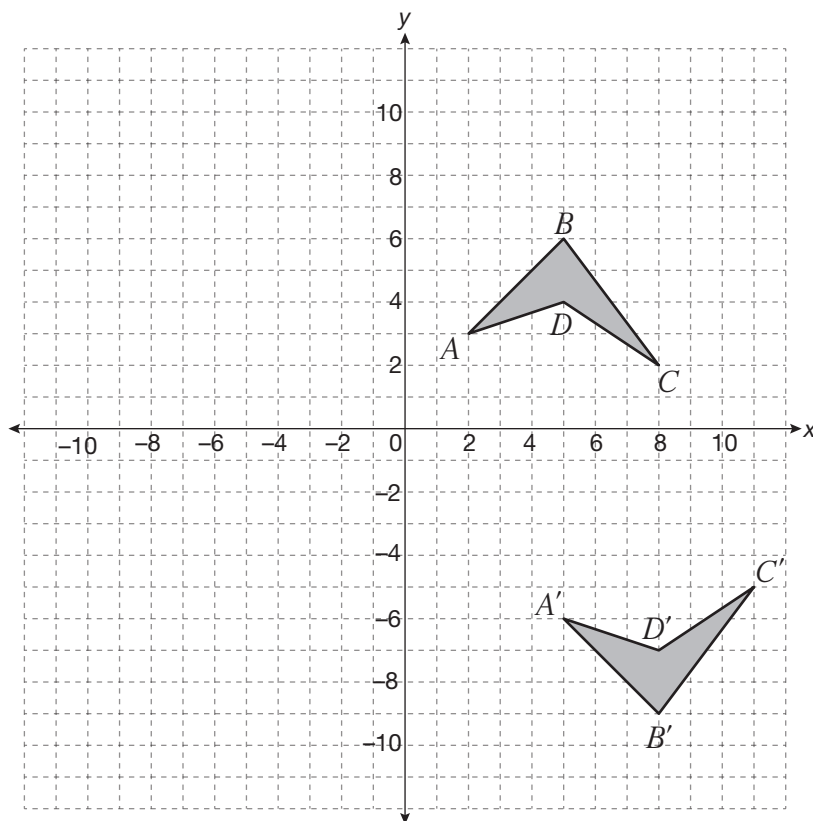

   A.   rotation and reflection
   B.   dilation and rotation
   C.   dilation and reflection
   D.   dilation and translation

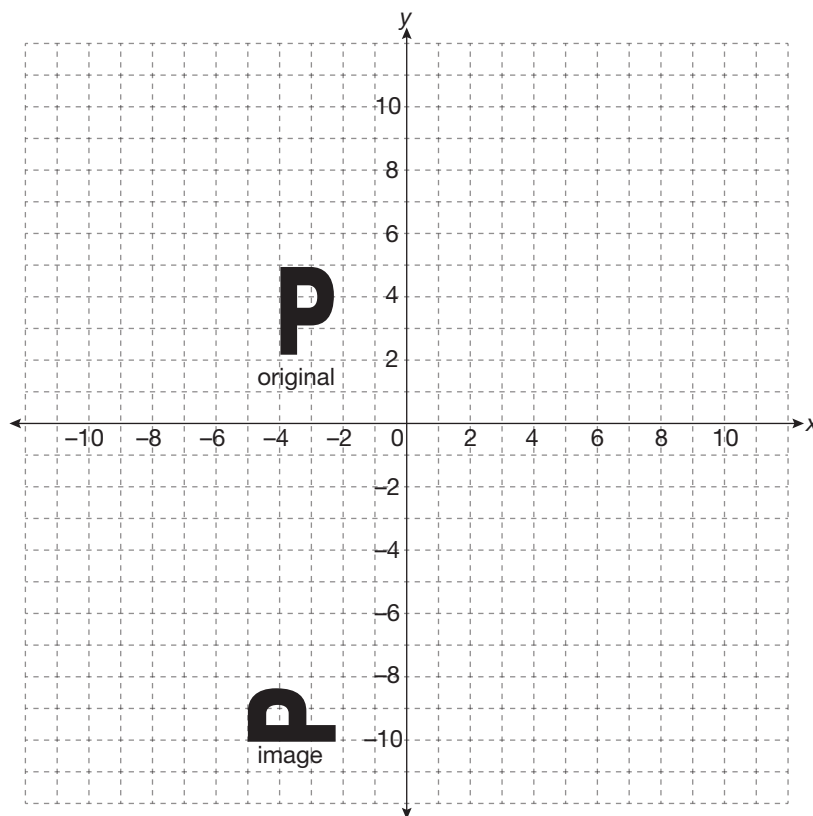(1) _____   2.   What two transformations were applied to the picture of the goldfish to obtain the image?
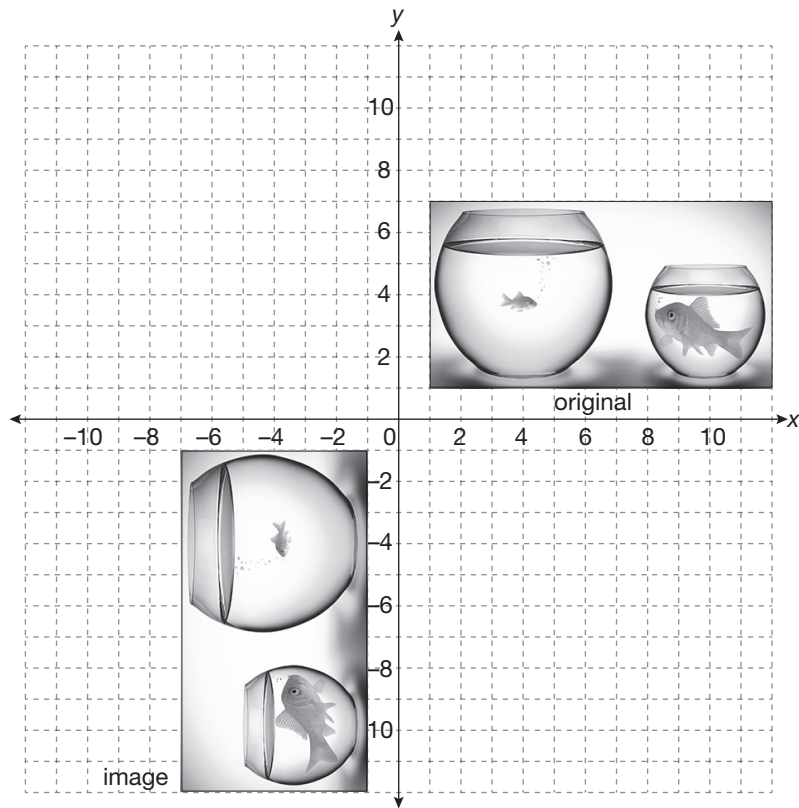
A.   rotation and reflection
B.   rotation and translation
C.   reflection and translation
D.   dilation and rotation

1 _____   3.   What two transformations were applied to quadrilateral $ABCD$ below to obtain image $A'B'C'D'$?

A.   rotation and reflection
B.   rotation and translation
C.   reflection and translation
D.   dilation and rotation

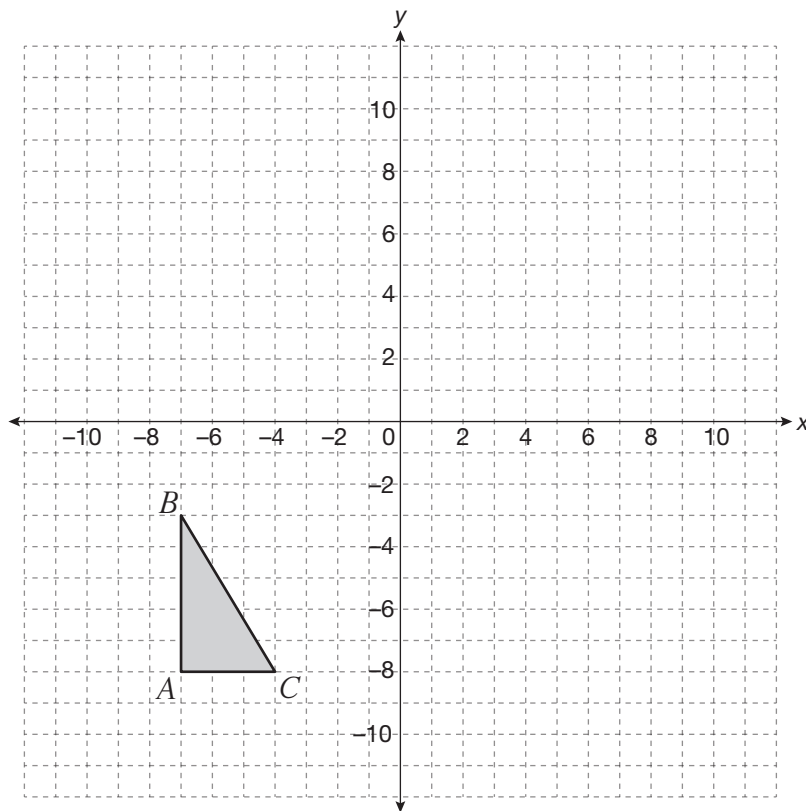① _____ 4 . What two transformations were applied to the P to obtain the image?

A. rotation and reflection
B. rotation and translation
C. reflection and translation
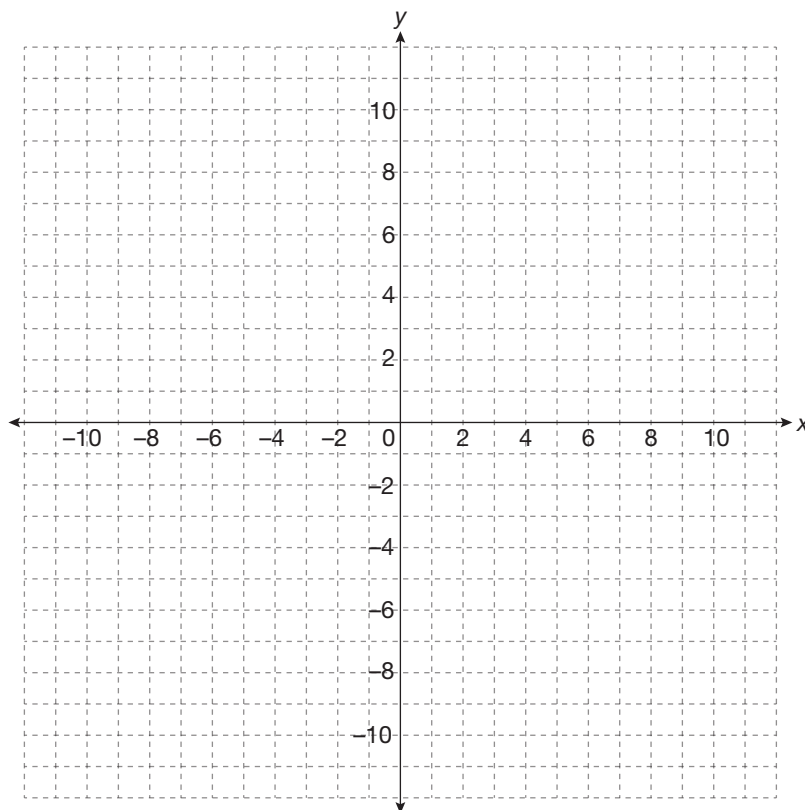D. dilation and rotation

5.   Perform the following transformations.

(2)

a.   Rotate $\triangle ABC$ $180°$ to produce the rotated image, $A'B'C'$. Draw and label rotated image $A'B'C'$.

②

b. Translate $\Delta A'B'C'$ horizontally 2 units to the left and vertically 10 units down. Draw and label the translated image, $A''B''C''$.

6.   Use the graph to perform the following transformations.

a.   Rotate quadrilateral $WXYZ$ $270°$ counterclockwise to produce the rotated image, $W'X'Y'Z'$.

(2)

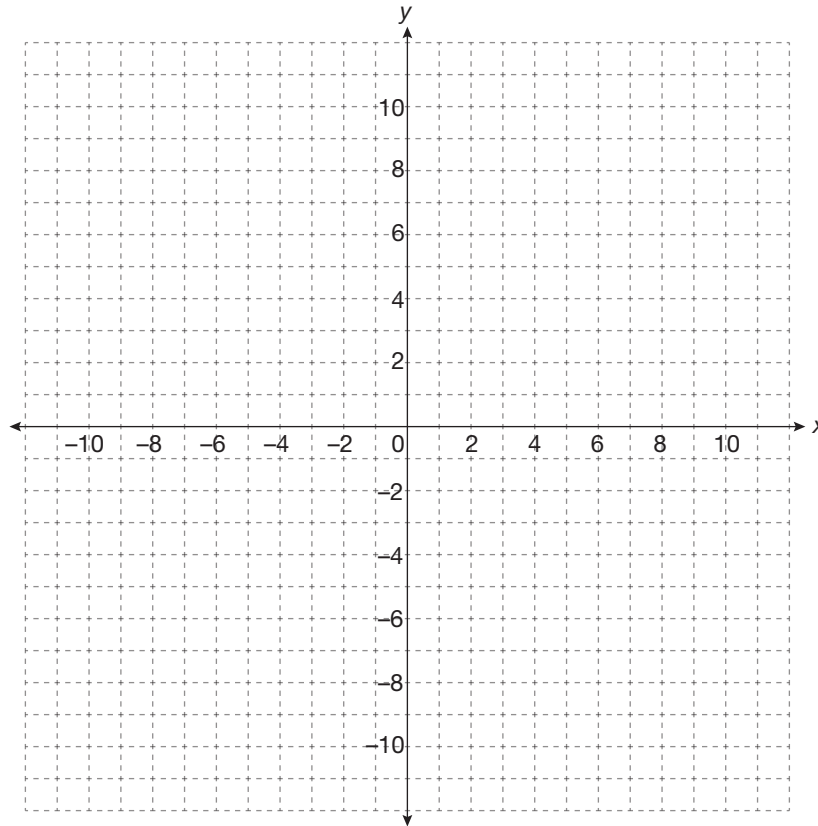i.   Draw and label rotated image $W'X'Y'Z'$.

(1)
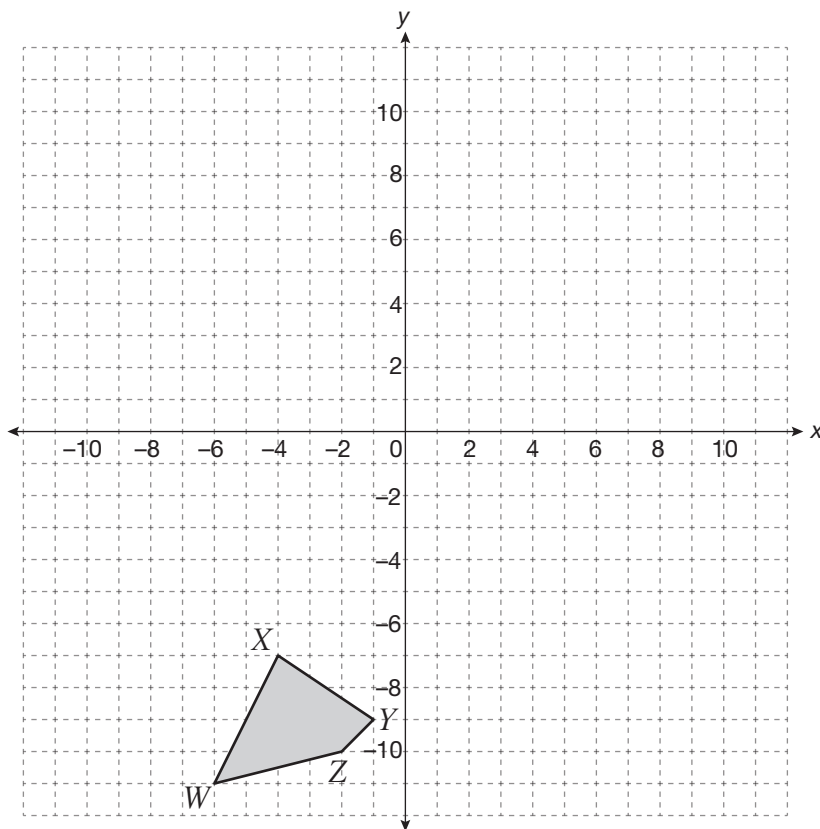
ii.   State the coordinates of each vertex.

b. Reflect quadrilateral $W'X'Y'Z'$ in the x-axis to produce the reflected image, $W''X''Y''Z''$.
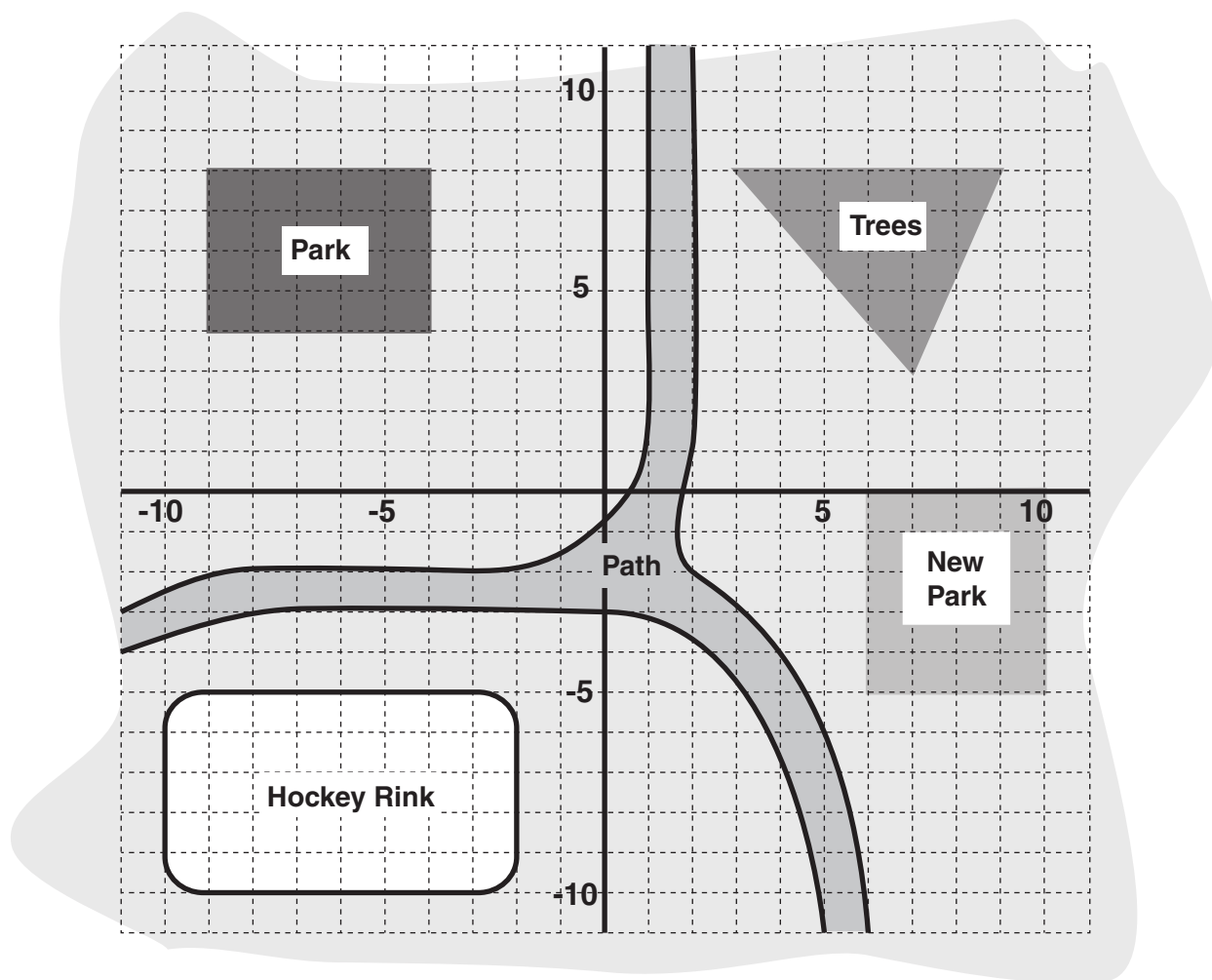
②

   i.   Draw and label reflected image $W''X''Y''Z''$.

①

   ii.   State the coordinates of each vertex.

7. Areas within a city park are being redeveloped. The current park has the following layout:

The contractor has been asked to move the Park (in quadrant 2) to a new location in the lower right-hand side of the area (in quadrant 4), which is labelled "New Park." A soccer field is to be built where the original Park was located.

(1)

a. Could a single transformation be applied to move the Park from its current location to the New Park location? If so, explain the transformation.

(1)

b. Provide a possible combination of two transformations that would move the Park from its current location to the New Park location.