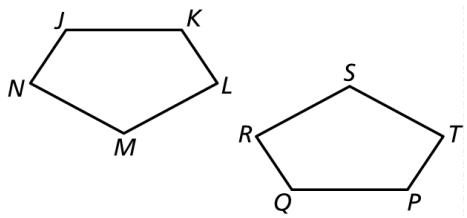
Name_____ Date_____

Chapter 2 – Review

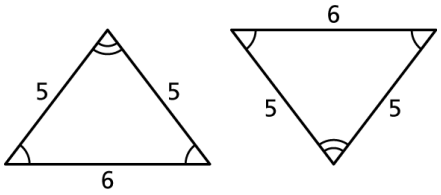
The figures are congruent. Name the corresponding angles and the corresponding sides.

1)

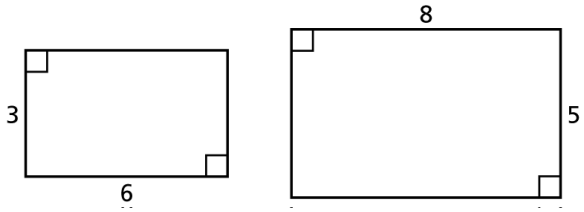


Tell whether the two figures are congruent. Explain your reasoning.

2)



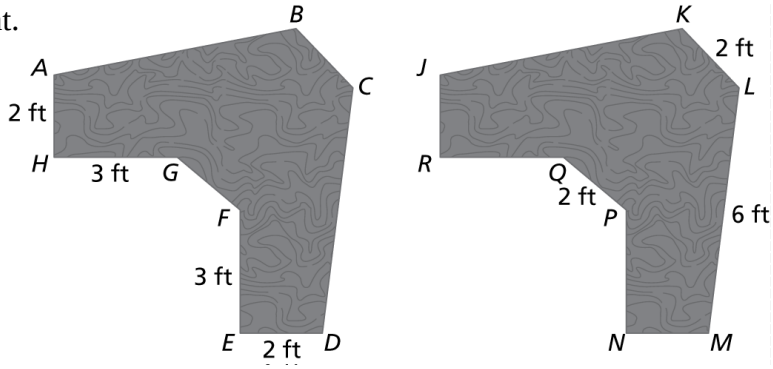
3)



4) The tops of the two desks shown are congruent.

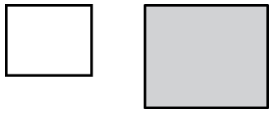
a. What is the length of side *NP*?

b. Side *AB* is congruent to side *CD*. What is the length of side *AB*?

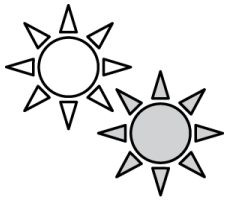


Tell whether the shaded figure is a translation of the nonshaded figure. Explain your reasoning.

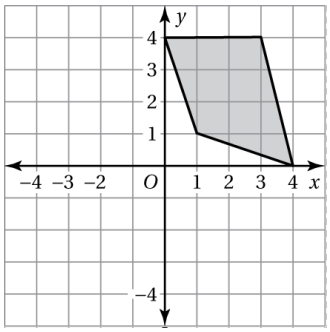
5)



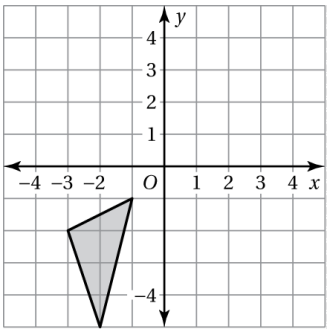
6)



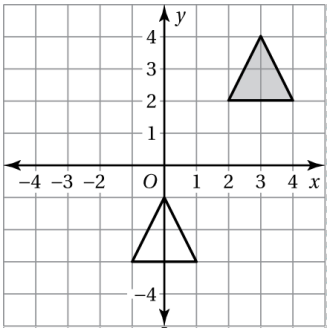
7) Translate the figure 4 units left and 1 unit down. What are the coordinates of the image?



8) Translate the triangle 5 units right and 4 units up. What are the coordinates of the image?

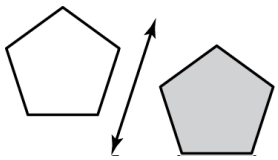


9) Describe the translation from the shaded figure to the nonshaded figure.

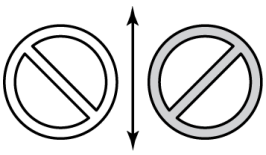


Tell whether the shaded figure is a reflection of the nonshaded figure. Explain your reasoning.

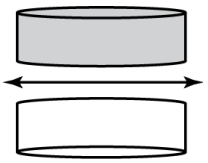
10)



11)

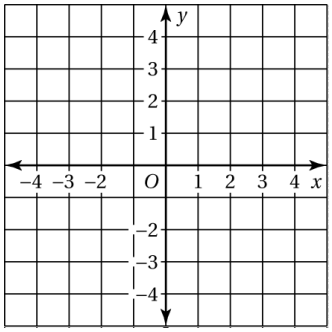


12)

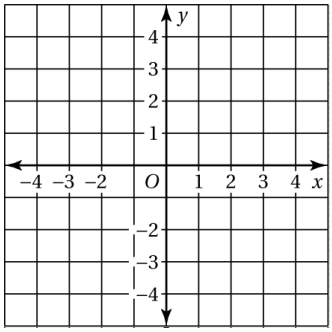


Draw the figure and its reflection in the x-axis. Identify the coordinates of the image.

13) $A(1, 2)$, $B(3, 2)$, $C(1, 4)$

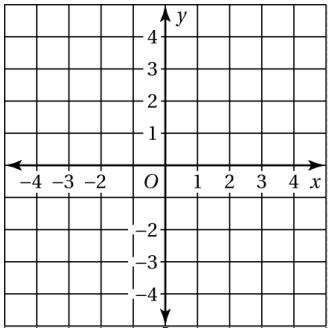


14) $W(3, 1)$, $X(3, 4)$, $Y(1, 4)$, $Z(1, 1)$

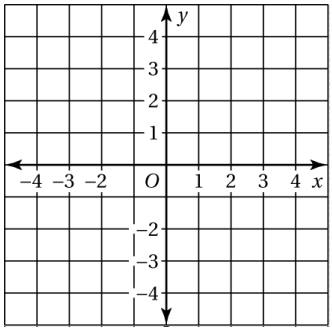


Draw the figure and its reflection in the *y*-axis. Identify the coordinates of the image.

15) $J(3, 4)$, $K(3, 0)$, $L(2, 4)$

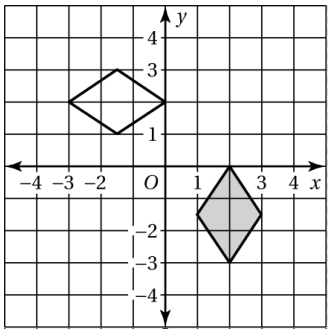


16) $M(2, 2)$, $N(2, 3)$, $P(3, 3)$, $Q(4, 1)$

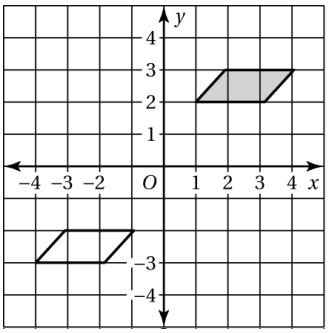


Tell whether the shaded figure is a rotation of the nonshaded figure about the origin. **If so, give the angle and the direction of rotation.**

17)

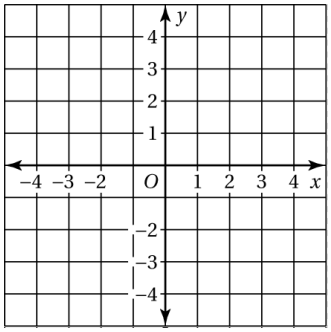


18)

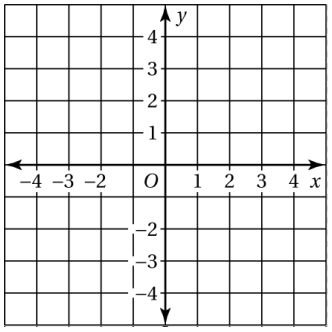


The vertices of a triangle are $A(1, 1)$, $B(3, 1)$, and $C(3, 4)$. Rotate the triangle as described. Find the coordinates of the image.

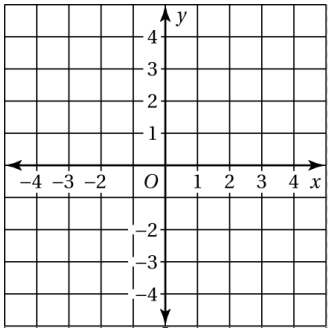
19) 90° clockwise about the origin



20) 180° about the origin

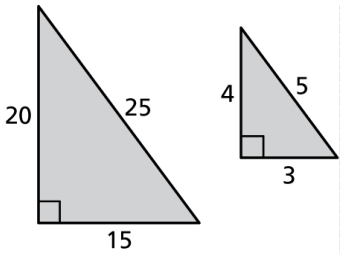


21) The vertices of a triangle are $(-4, -4)$, $(-2, -4)$, and $(-3, -1)$.
Rotate it 180° about the origin, AND then reflect it in the *x*-axis.
What are the vertices of the final triangle?

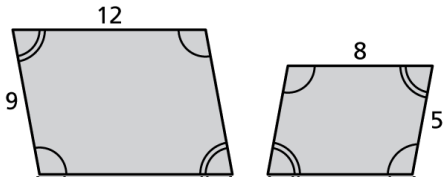


Tell whether the two figures are similar. Explain your reasoning.

22)



23)



24) In your classroom, a dry erase board is 8 feet long and 4 feet wide. Your teacher makes individual dry erase boards for you to use at your desk that are 11.5 inches long and 9.5 inches wide. Are the boards similar? Explain.

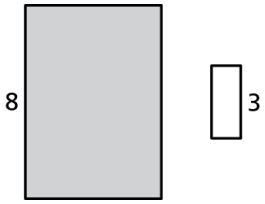
25) You have a 4 x 6 photo of you and your friend.

a. You order a 5 x 7 print of the photo. Is the new photo similar to the original? Explain.

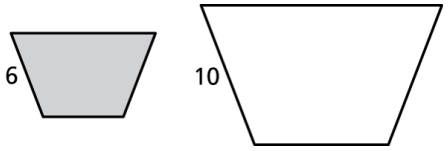
b. You enlarge the original photo to three times its size on your computer. Is the new photo similar to the original? Explain.

The two figures are similar. Find the ratios (shaded to nonshaded) of the perimeters and of the areas.

26)



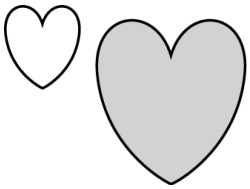
27)



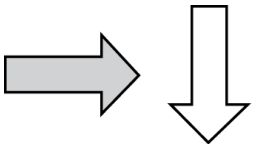
28) You buy two picture frames that are similar. The ratio of the corresponding side lengths is 4 : 5. What is the ratio of the areas?

Tell whether the shaded figure is a dilation of the nonshaded figure.

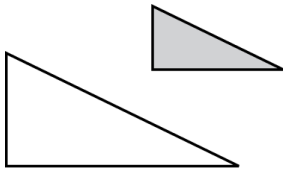
29)



30)

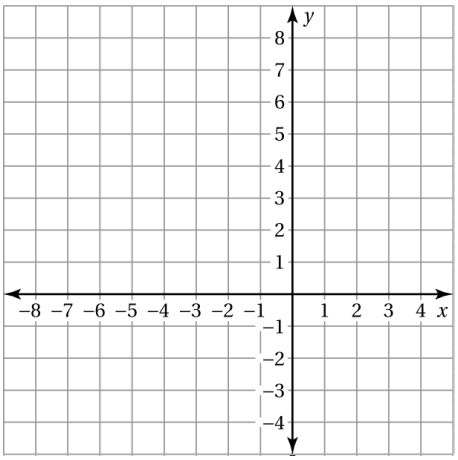


31)



The vertices of a figure are given. Draw the figure and its image after a dilation with the given scale factor. Identify the type of dilation.

32) $A(-2, 2), B(1, 2), C(1, -1); k = 3$



33) $D(4, 2), E(4, 8), F(8, 8), G(8, 2); k = \frac{1}{2}$