

Dilation Practice

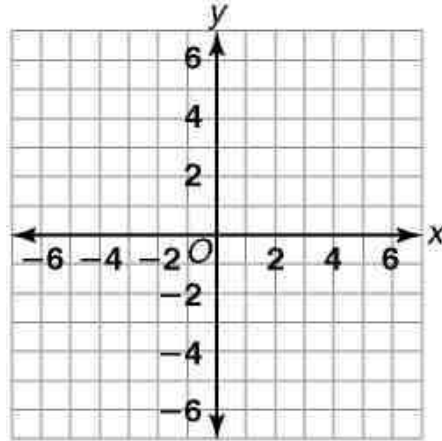
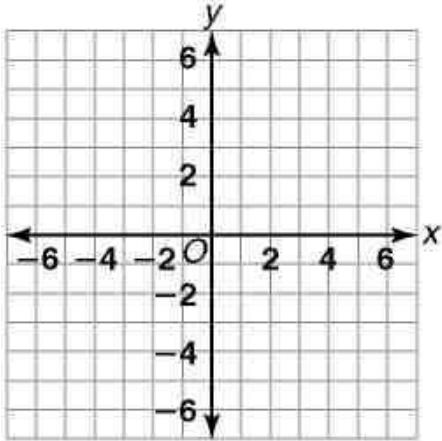
Graph the coordinates of the quadrilateral $ABCD$. Find the coordinates of its image $A'B'C'D'$ after a dilation with the given scale factor.

1. scale factor 2

$A(2,-2), B(3,2), C(-3,2), D(-2,-2)$;

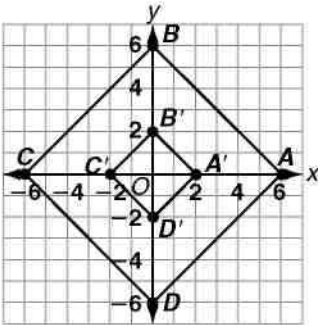
2. scale factor $\frac{1}{2}$

$A(6,3), B(0,6), C(-6,2), D(-6,-5)$;

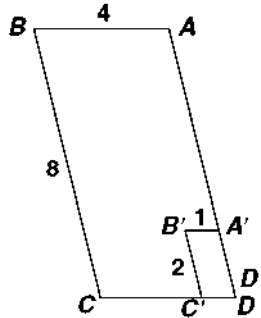


Quadrilateral $A'B'C'D'$ is a dilation of quadrilateral $ABCD$. Find the scale factor. Classify each dilation as an enlargement or a reduction.

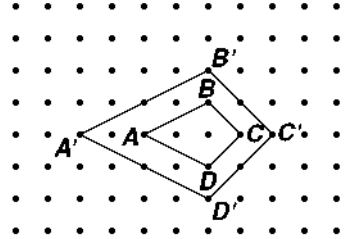
3.



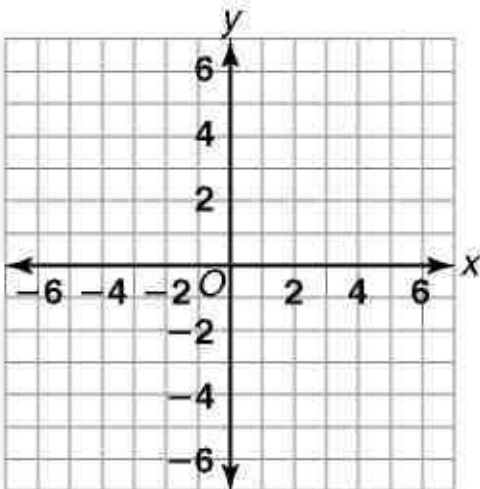
4.



5.



6. A triangle has coordinates $A(-2, -2)$, $B(4, -2)$, and $C(1, 1)$. Graph its image $A'B'C'$ after a dilation with scale factor of 2. Give the coordinates of $A'B'C'$.



What is true about the length of \overline{AB} and $\overline{A'B'}$?

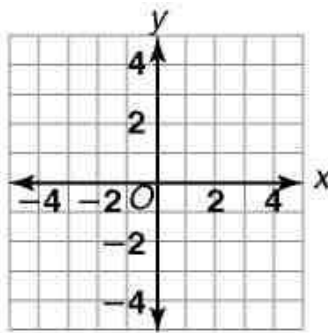
Graph quadrilateral $ABCD$ and its image $A'B'C'D'$ after a dilation with the given scale factor. Classify each dilation as an enlargement or a reduction.

7. scale factor 2

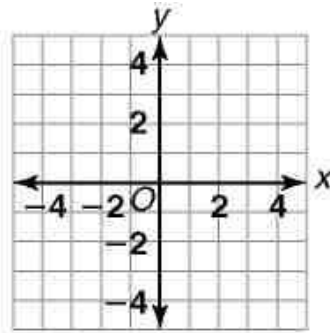
$A(-1,1), B(1,1), C(0,-1), D(-1,-1)$;

8. scale factor $\frac{1}{2}$

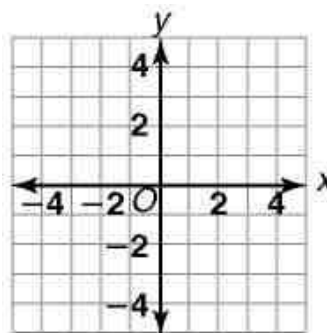
$A(-2,-2), B(-2,2), C(2,2), D(2,0)$;



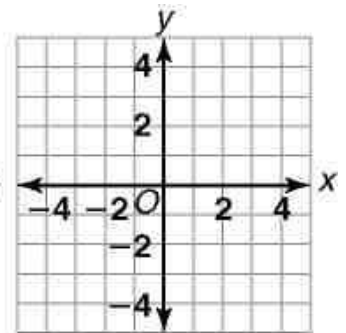
$ABCD$



$A'B'C'D'$



$ABCD$



$A'B'C'D'$

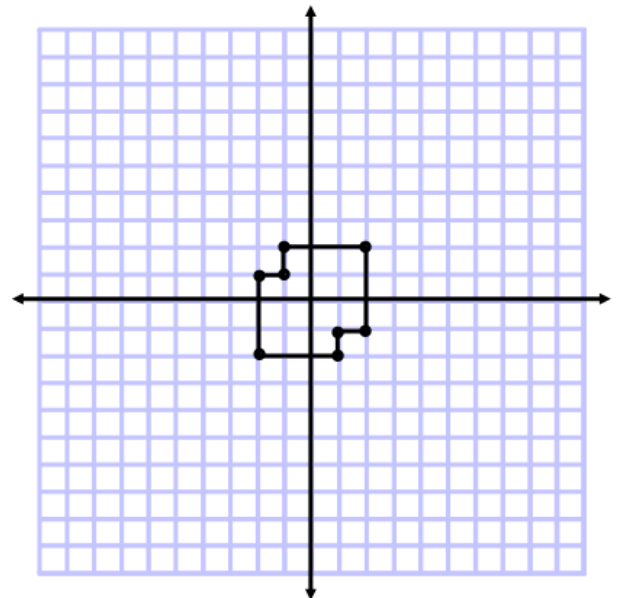
9. The figure is the preimage. The center of dilation is the origin.

A) List the coordinates of the vertices (corners) of the preimage in the first column of the table.

Original corners	After dilation
(2, 2)	(6, 6)

B) What is the scale factor for the dilation $(x, y) \rightarrow (3x, 3y)$?

C) Apply the dilation to the preimage and write the coordinates of the vertices of the image in the second column of the table.



D) Sketch the image under the dilation on the coordinate grid.

E) How does the dilation affect the length of line segments?