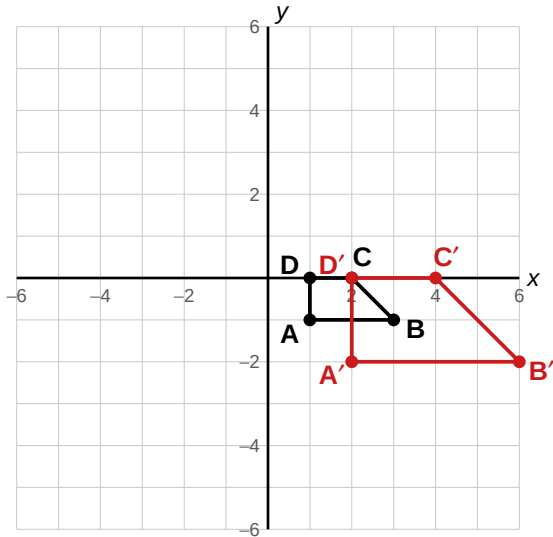


Enlargements

Dilate each figure about the origin. Draw the image, label it with prime marks (A' , B' , ...), and write its coordinates.

1.

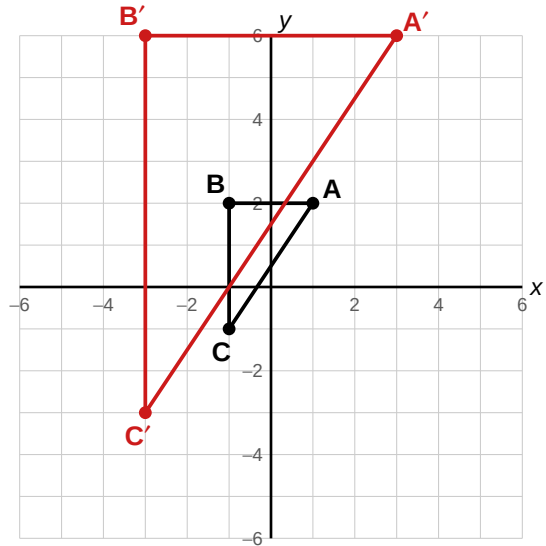


Dilate by a scale factor of 2.

$$A' = (2, -2) \quad B' = (6, -2)$$

$$C' = (4, 0) \quad D' = (2, 0)$$

2.

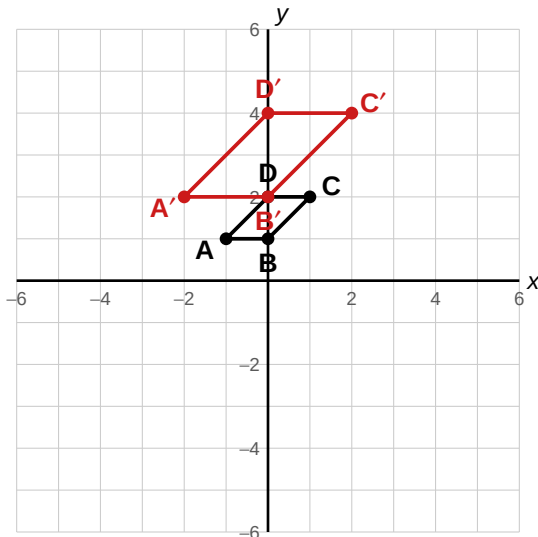


Dilate by a scale factor of 3.

$$A' = (3, 6) \quad B' = (-3, 6)$$

$$C' = (-3, -3)$$

3.

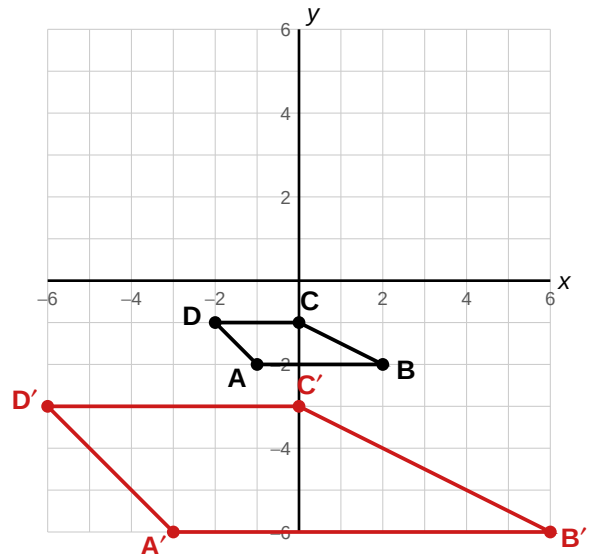


Dilate by a scale factor of 2.

$$A' = (-2, 2) \quad B' = (0, 2)$$

$$C' = (2, 4) \quad D' = (0, 4)$$

4.



Dilate by a scale factor of 3.

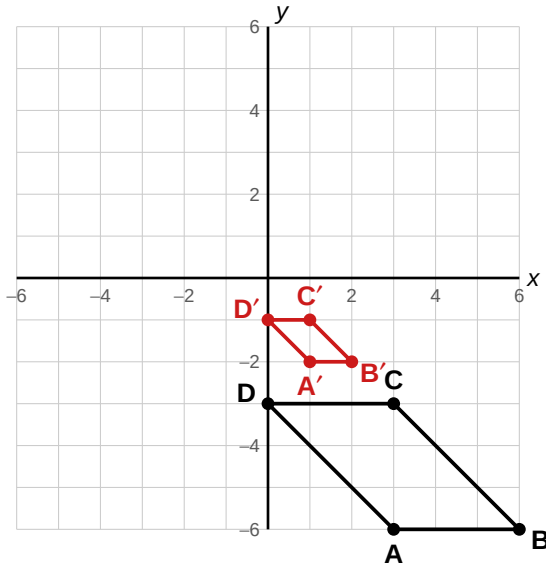
$$A' = (-3, -6) \quad B' = (6, -6)$$

$$C' = (0, -3) \quad D' = (-6, -3)$$

Reductions

Dilate each figure about the origin. Draw the image, label it with prime marks (A' , B' , ...), and write its coordinates.

1.

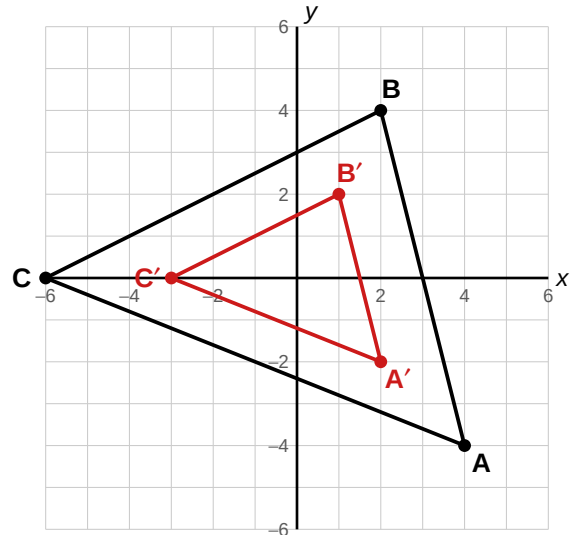


Dilate by a scale factor of $1/3$.

$A' = (1, -2)$ $B' = (2, -2)$

$C' = (1, -1)$ $D' = (0, -1)$

2.

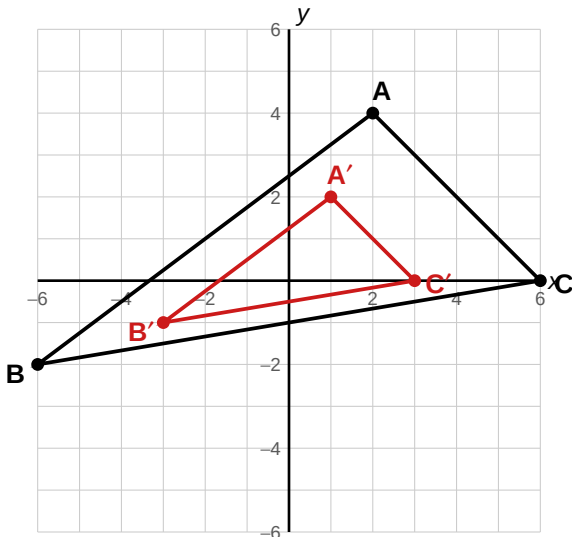


Dilate by a scale factor of $1/2$.

$A' = (2, -2)$ $B' = (1, 2)$

$C' = (-3, 0)$

3.

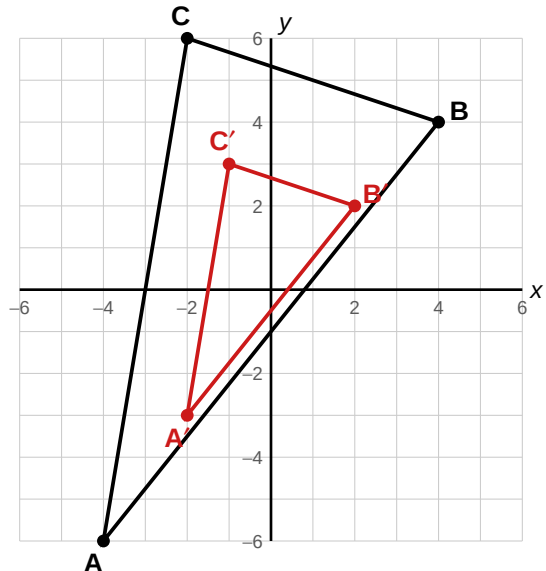


Dilate by a scale factor of $1/2$.

$A' = (1, 2)$ $B' = (-3, -1)$

$C' = (3, 0)$

4.



Dilate by a scale factor of $1/2$.

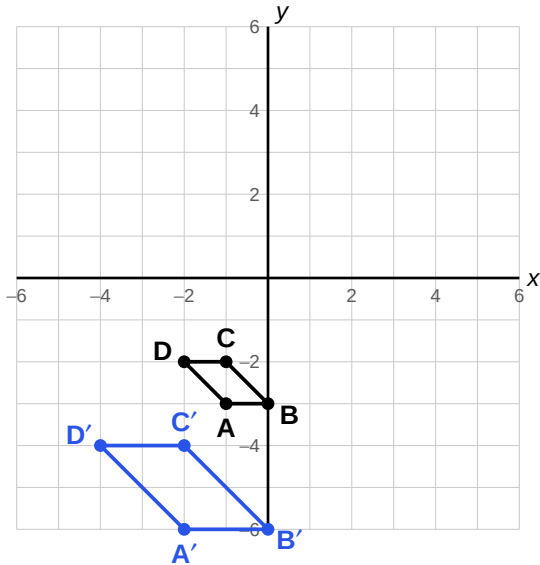
$A' = (-2, -3)$ $B' = (2, 2)$

$C' = (-1, 3)$

Find the scale factor

The origin is the center of each dilation. Compare a distance on the image with the same distance on the original.

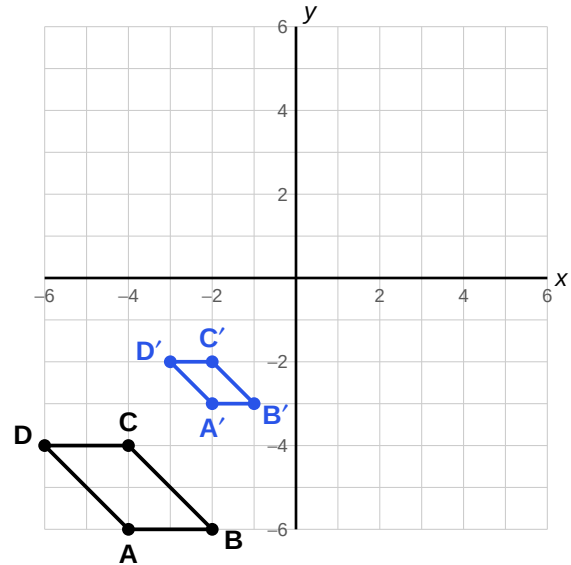
1.



What scale factor maps figure ABCD onto A'B'C'D'?

Scale factor = 2

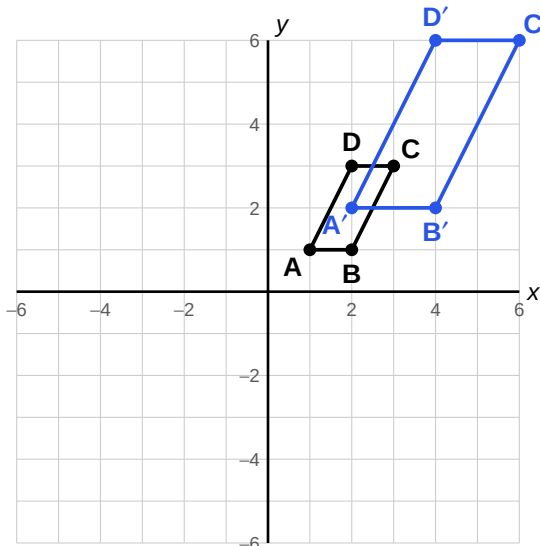
2.



What scale factor maps figure ABCD onto A'B'C'D'?

Scale factor = $\frac{1}{2}$

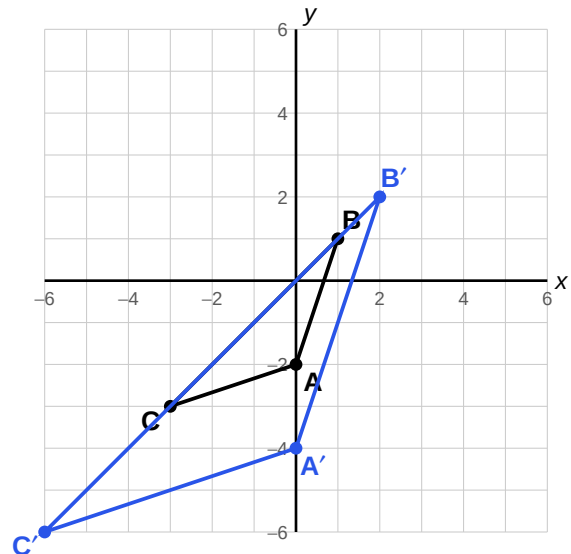
3.



What scale factor maps figure ABCD onto A'B'C'D'?

Scale factor = 2

4.



What scale factor maps triangle ABC onto A'B'C'?

Scale factor = 2

From coordinates

Multiply each coordinate by the scale factor. The center of the dilation is the origin.

1.

A figure with vertices $A(-1, 2)$, $B(-3, -2)$, $C(3, 0)$ and $D(-2, -3)$ is dilated by a scale factor of 4, centered at the origin. Write the coordinates of the image.

$$A' = \underline{(-4, 8)} \quad B' = \underline{(-12, -8)}$$

$$C' = \underline{(12, 0)} \quad D' = \underline{(-8, -12)}$$

2.

A figure with vertices $P(9, -6)$, $Q(3, 6)$, $R(-9, 0)$ and $S(-9, -9)$ is dilated by a scale factor of $1/3$, centered at the origin. Write the coordinates of the image.

$$P' = \underline{(3, -2)} \quad Q' = \underline{(1, 2)}$$

$$R' = \underline{(-3, 0)} \quad S' = \underline{(-3, -3)}$$

3.

A figure with vertices $W(4, 0)$, $X(-3, 5)$, $Y(-5, -6)$ and $Z(3, 4)$ is dilated by a scale factor of 2, centered at the origin. Write the coordinates of the image.

$$W' = \underline{(8, 0)} \quad X' = \underline{(-6, 10)}$$

$$Y' = \underline{(-10, -12)} \quad Z' = \underline{(6, 8)}$$

4.

A figure with vertices $A(-4, -2)$, $B(2, -8)$, $C(12, -2)$ and $D(-4, 2)$ is dilated by a scale factor of $1/2$, centered at the origin. Write the coordinates of the image.

$$A' = \underline{(-2, -1)} \quad B' = \underline{(1, -4)}$$

$$C' = \underline{(6, -1)} \quad D' = \underline{(-2, 1)}$$