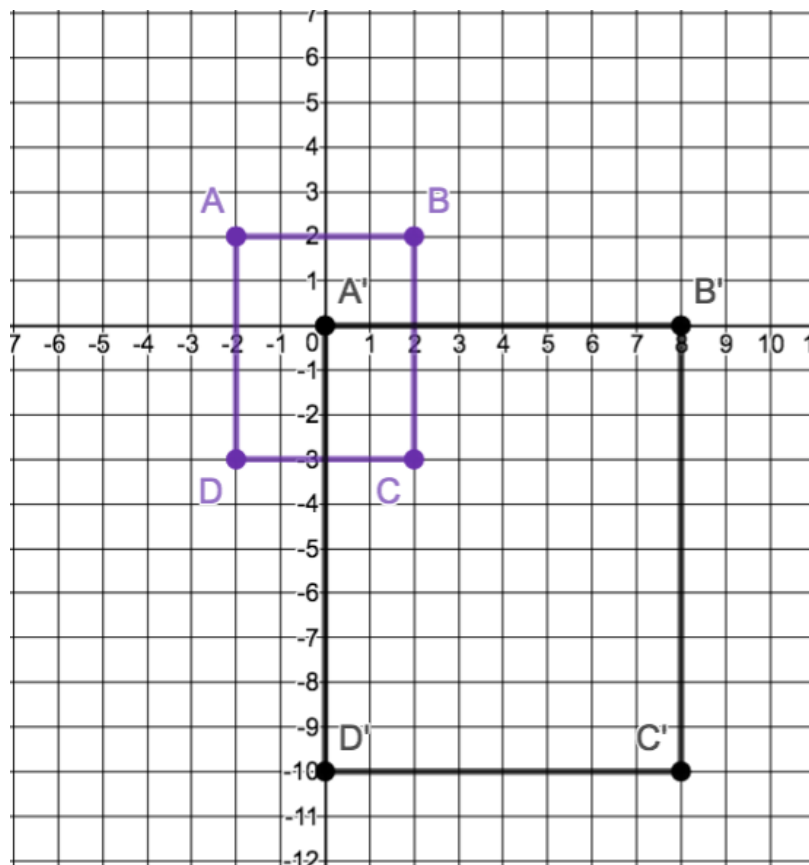


Go to PAGE 2 for the SOLUTIONS for the HW Assignment

1. A triangle with an area of 9 cm^2 is dilated by a scale factor of 10. What is the area of the dilated triangle?
2. A square is dilated by a scale factor of 3 resulting in a square with a perimeter of 24 inches. What is the side length of the preimage square?
3. Rectangle ABCD is dilated by a scale factor of $\frac{1}{3}$. Rectangle A'B'C'D' has an area of 36 cm^2 . What is the area of rectangle ABCD?

Use the image below to answer the following questions.



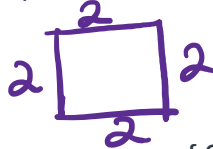
4. Locate the center of dilation by finding the intersection of the lines connecting each preimage point with its image point.
5. Identify the scale factor.

Key

1. A triangle with an area of 9 cm^2 is dilated by a scale factor of 10. What is the area of the dilated triangle? 900 cm^2

$(10)^2 = 100$ area scale factor
 $9 \cdot 100 = 900 \text{ cm}^2$

2. A square is dilated by a scale factor of 3 resulting in a square with a perimeter of 24 inches. What is the side length of the preimage square? 2 inches

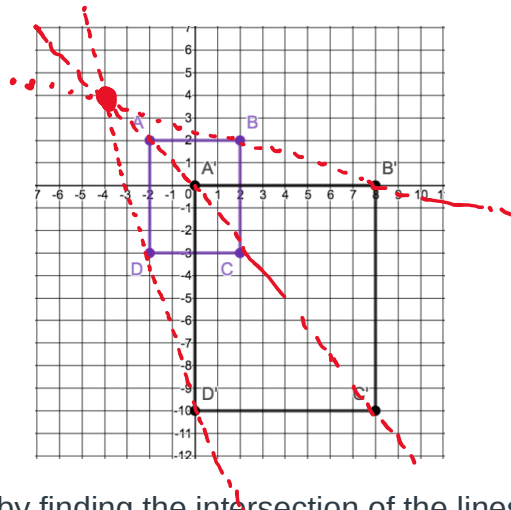
$\frac{24}{3} = 8$ (preimage square perimeter) 

3. Rectangle ABCD is dilated by a scale factor of $\frac{1}{3}$. Rectangle A'B'C'D' has an area of 36 cm^2 .

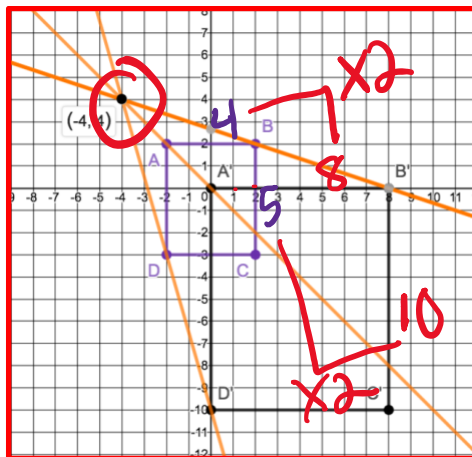
What is the area of rectangle ABCD? 324 cm^2

$(\frac{1}{3})^2 = \frac{1}{9}$ area scale factor $\frac{36}{1/9} = 36 \cdot 9 = 324 \text{ cm}^2$

Use the image below to answer the following questions.



4. Locate the center of dilation by finding the intersection of the lines connecting each preimage point with its image point



Center of dilation is located at $(-4, 4)$

5. Identify the scale factor. Scale factor is 2

Scale factor must be 2 when we compare side lengths.

