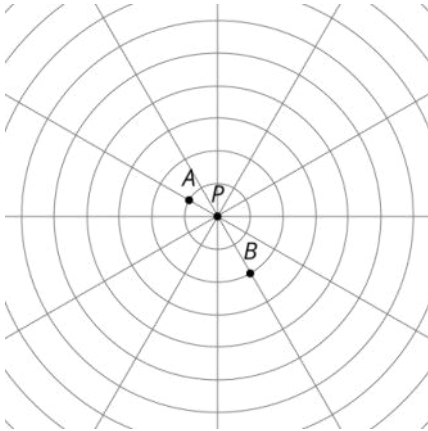


Lesson 1 - Projecting & Scaling

What is a **dilation**?

Lesson 2



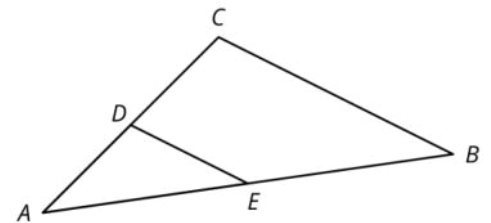
What is a **center of dilation**?

1. Dilate A using P as the center of dilation and a scale factor of 4. Label the new point A' .

2. Dilate B using P as the center of dilation and a scale factor of 3. Label the new point B' .

Lesson 3

In the diagram on the right, what is the **center of dilation**? Explain how you know.



When the scale factor is _____ 1, the dilation increases the size.

When the scale factor is _____ 1, the dilation decreases the size.

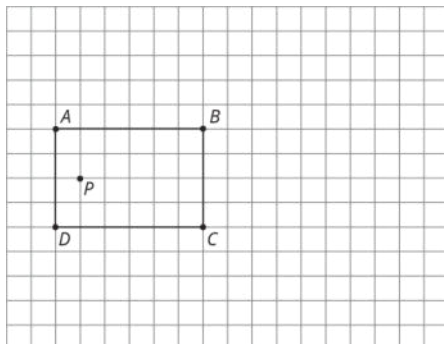
The scale factor from _____ to _____ is $\frac{1}{2}$. The scale factor from _____ to _____ is 2.

Lesson 4

Draw the image of rectangle $ABCD$ under dilation using center P and scale factor 2. Label it $EFGH$.

Draw the image of $EFGH$ using center P and scale factor $\frac{1}{4}$. Label it $WXYZ$.

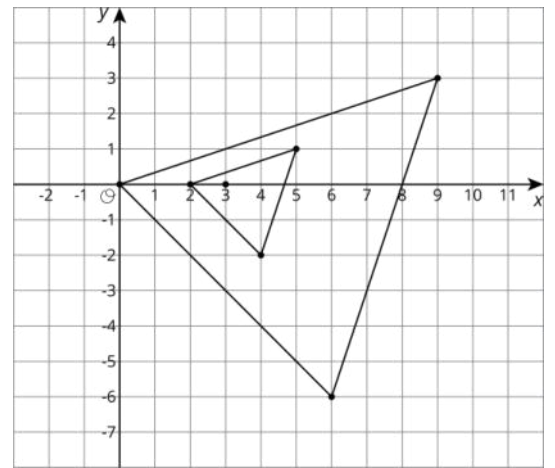
What is the scale factor from $ABCD$ to $WXYZ$?



Lesson 5

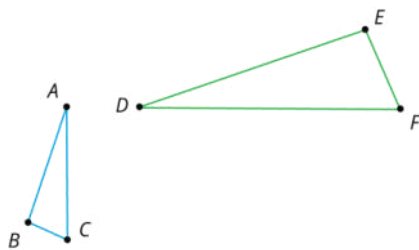
The smaller triangle is dilated to create the larger triangle. The center of dilation is plotted, but not labeled.

Describe this dilation. Be sure to include all of the information someone would need to perform the dilation.



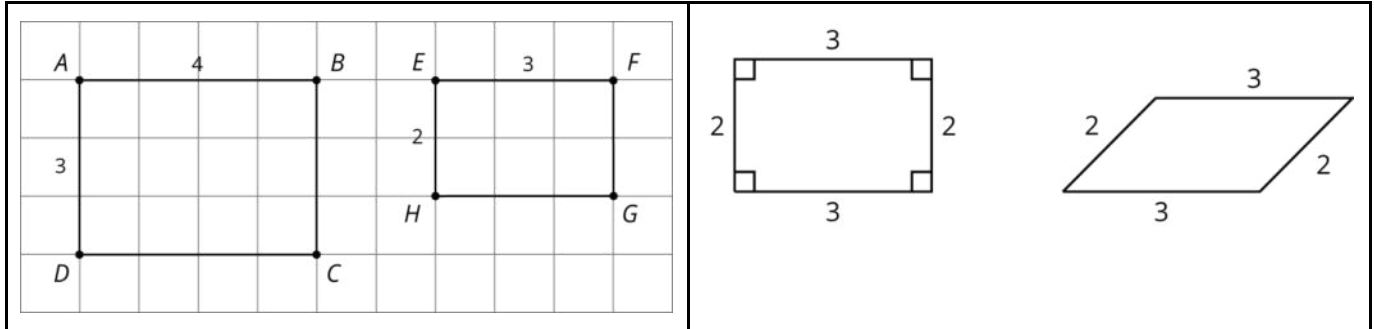
Lesson 6

Describe a sequence of transformations that shows that these two figures are similar.



Lesson 7

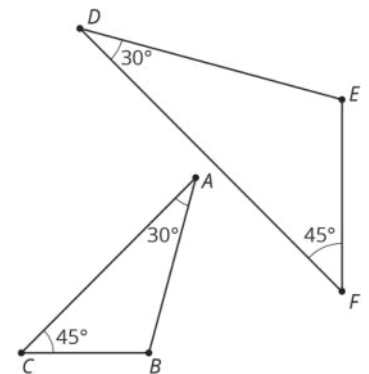
Explain why the quadrilaterals in each example are NOT similar.



Lesson 8

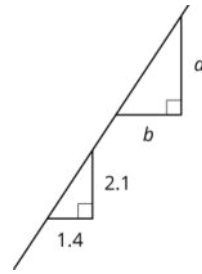
Triangles ABC and DEF both contain a 30-degree and a 45-degree angle. Tyler claims that they must be similar. Is he correct?

Priya claims that they must be congruent to each other. Is she correct?

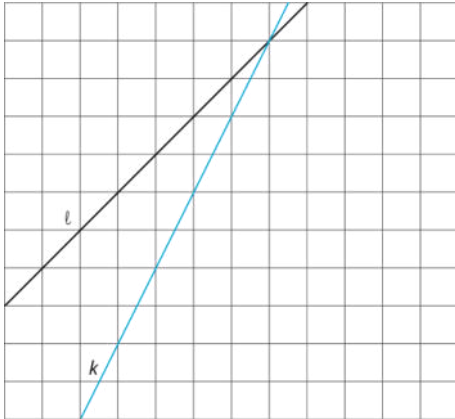


Lesson 9

The two triangles shown are similar. Find the value of $\frac{a}{b}$.



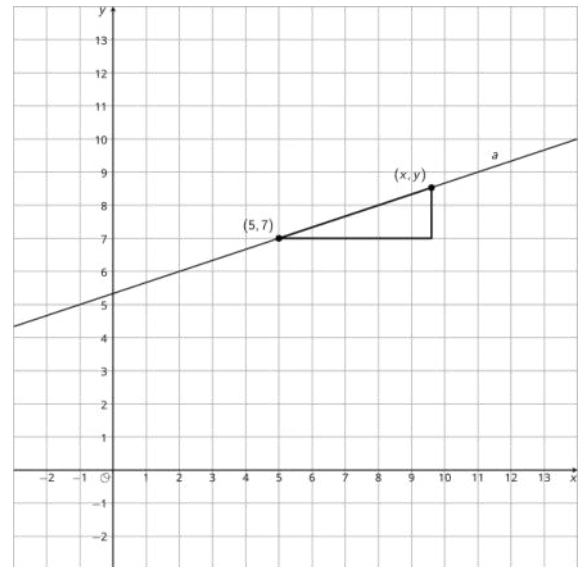
Lesson 10



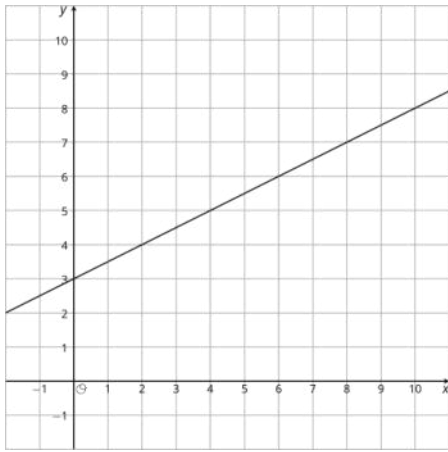
1. Which line has a slope of 1, and which has a slope of 2?
2. Use a ruler to help you graph a line whose slope is $\frac{1}{3}$.

Lesson 11

1. Explain why the slope of line a is $\frac{2}{6}$.
2. Label the horizontal and vertical sides of the triangle with expressions representing their length.
3. Explain why $\frac{y-7}{x-5} = \frac{2}{6}$.



Lesson 12



Write an equation for this line.

Is the point (20,13) on this line? Explain your reasoning.