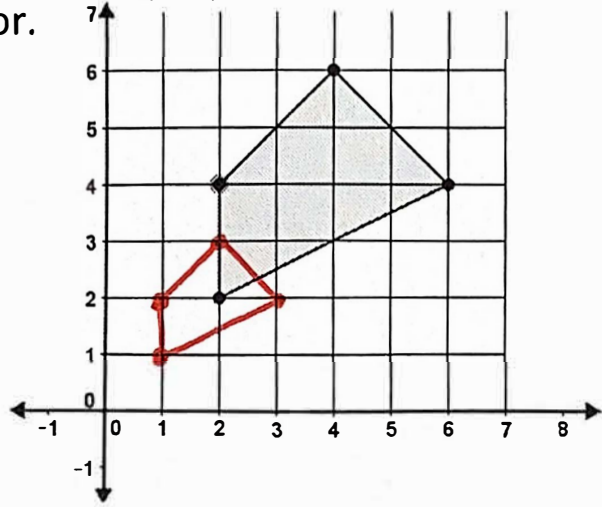


### SM2 Unit 8 Extra Practice

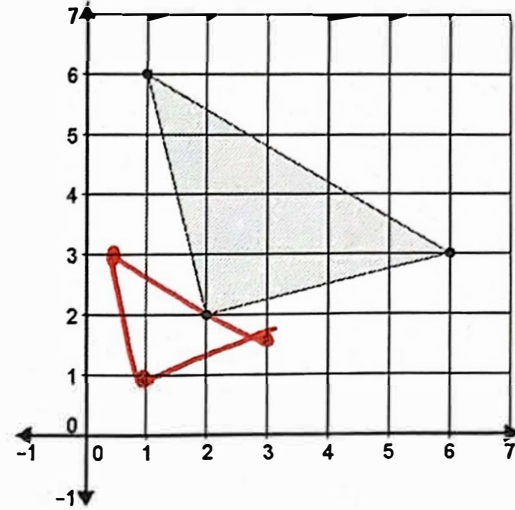
Note that pictures are not drawn to scale.

8.1-Draw the dilation of each figure with the given center of dilation and scale

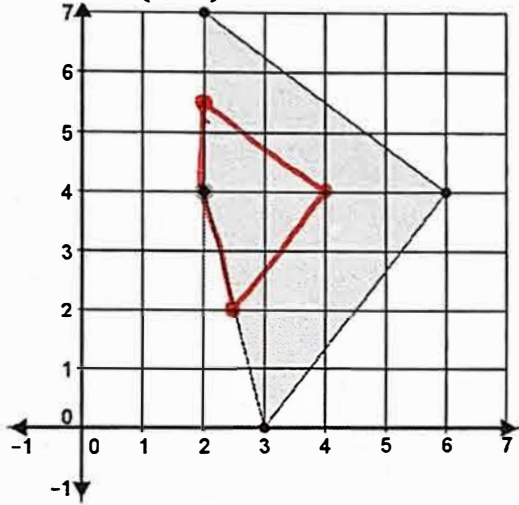
1) Center (0,0); scale factor  $\frac{1}{2}$  factor.



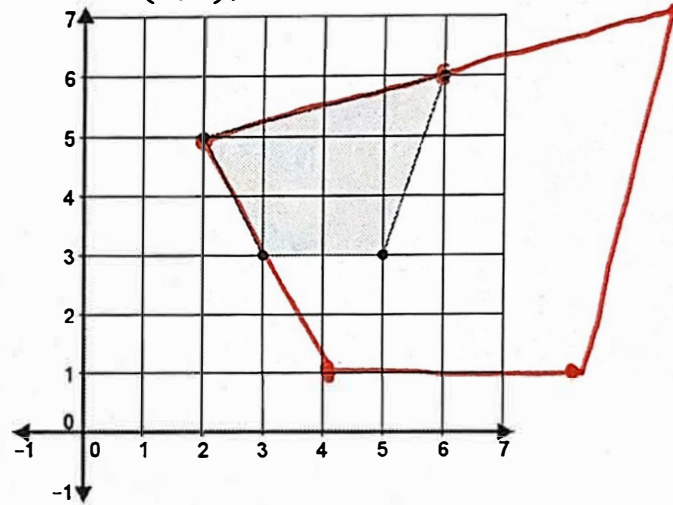
2) Center (0,0); scale factor  $\frac{1}{2}$



3) Center (2,4); scale factor  $\frac{1}{2}$

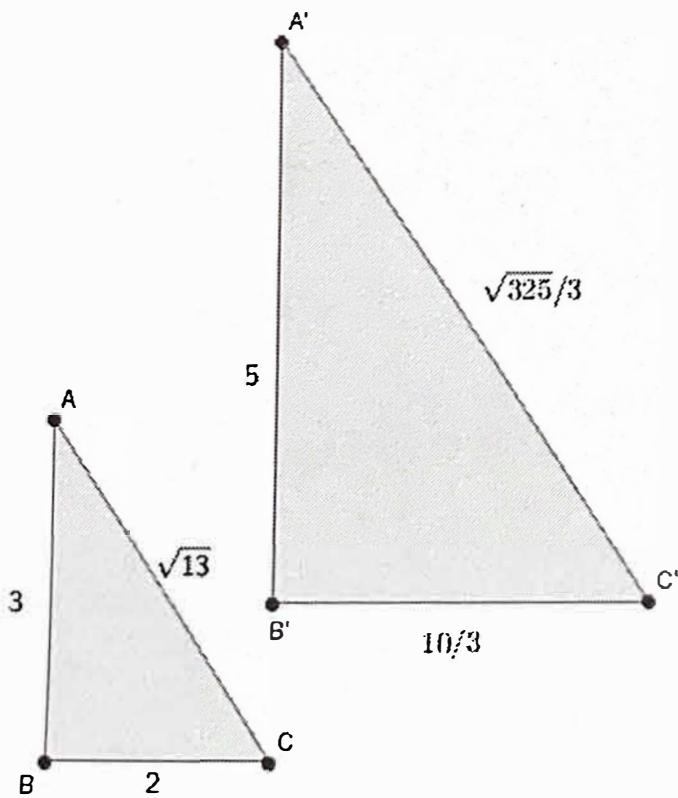


4) Center (2,5); scale factor 2



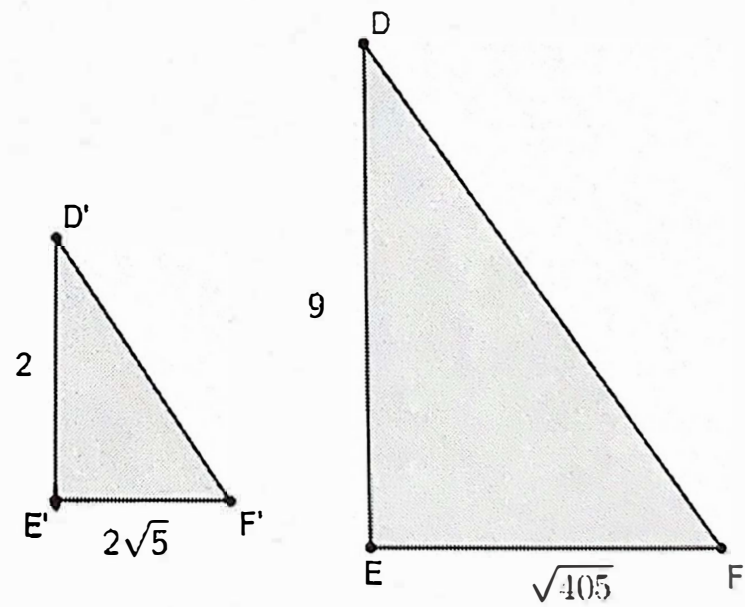
Determine the scale factor of the dilation.

5)



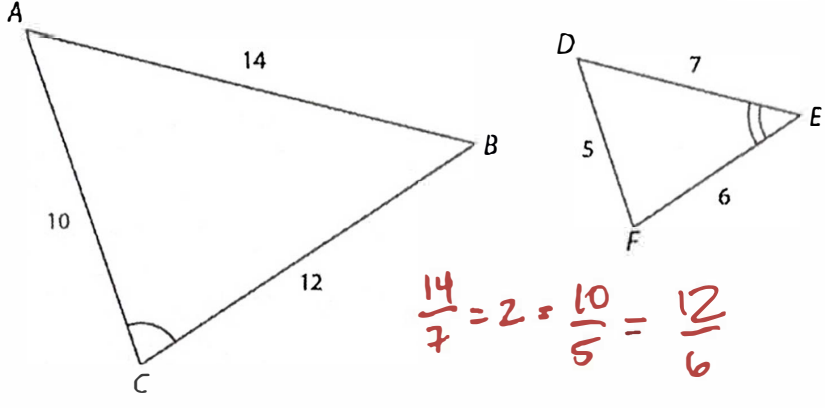
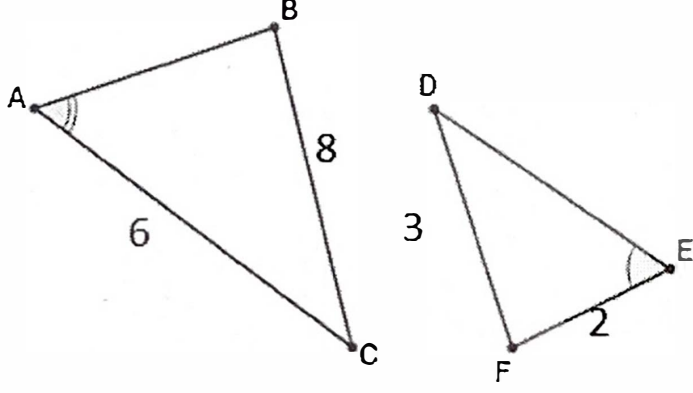
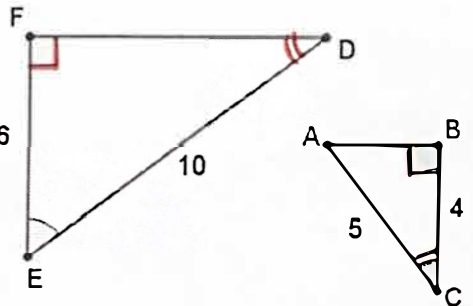
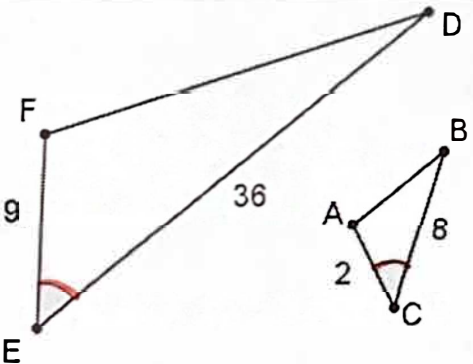
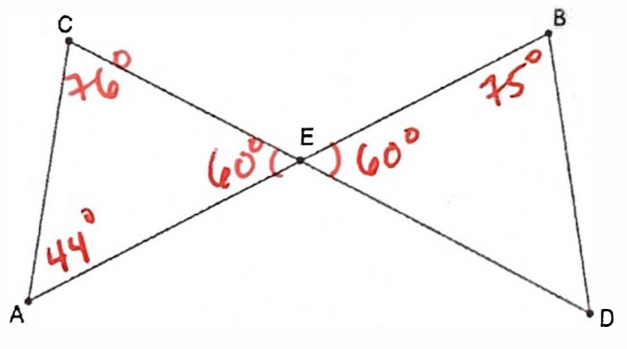
$$\frac{\text{new}}{\text{old}} = \frac{5}{3}$$

6)



$$\frac{\text{new}}{\text{old}} = \frac{2}{9}$$

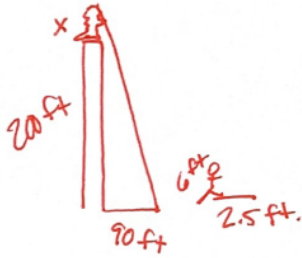
8.2- Determine if the following triangles are similar. If so, write a similarity statement.

<p>7)</p>  <p style="text-align: center;"><math>\frac{14}{7} = 2 = \frac{10}{5} = \frac{12}{6}</math></p>	<p>Answer:  <math>\triangle ABC \sim \triangle DEF</math> by SSS</p>
<p>8)</p> 	<p>Answer:  not similar  (not enough info)</p>
<p>9)</p>  <p style="text-align: center;"><math>\angle F \cong \angle B</math>    <math>\angle D \cong \angle C</math></p>	<p>Answer:  <math>\triangle EFD \sim \triangle ABC</math> by AA</p>
<p>10)</p>  <p style="text-align: center;"><math>\frac{36}{8} = 4.5 = \frac{9}{2}</math></p> <p style="text-align: center;"><math>\angle D \cong \angle E</math></p>	<p>Answer:  <math>\triangle ABC \sim \triangle FDE</math> by SAS</p>
<p>11) <math>m\angle CEA = 60^\circ, m\angle A = 44^\circ, m\angle B = 75^\circ</math></p> 	<p>Answer:  not similar</p>

$$\begin{array}{r}
 180 \\
 - 60 \\
 \hline
 120 \\
 - 44 \\
 \hline
 76^\circ
 \end{array}$$

Application Problems

12) You are standing on the ground when you notice that Godzilla has climbed to the top of a 200 ft building and is standing on top. It is really hard to tell how tall Godzilla is, but you want to be able to tell your friends about the experience so you quickly pull out the tape measure you always carry in your pocket and you have someone help you measure the shadow that is cast by the building and Godzilla together (90 ft). You are 6 ft tall and have this same person measure your shadow (which is 2.5 ft long). How tall is Godzilla?



$$2.5 \cdot \frac{(200 + x)}{6} = \frac{90 \cdot 6}{2.5}$$

$$\begin{array}{r} 506 + 2.5x = 540 \\ -500 \phantom{+ 2.5x} \\ \hline \end{array}$$

$$2.5x = 40$$

$$x = 16$$

Godzilla is 16 ft tall.