

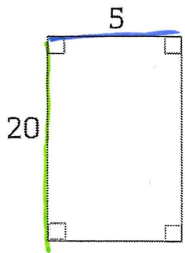
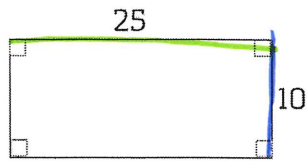
# Solutions

(nw)

SRT-A2a

Practice Assessment Q3 #1

1. Are the figures below similar? Explain why or why not and give numerical justification.



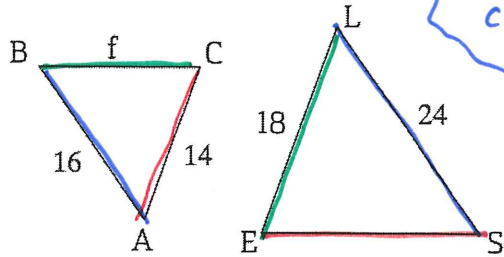
$$\frac{25}{20} \sim \frac{5}{4} = 1.25$$

$$\frac{10}{5} \sim \frac{2}{1} = 2$$

$$1.25 \neq 2$$

Not Similar.  
Sides not in equal proportion.

2. Given  $\triangle ABC \sim \triangle SLE$ . Find the values of  $f$  and  $g$ .



Be consistent

$$\frac{14}{24} = \frac{16}{18} = \frac{f}{24}$$

$$\frac{16}{24} = \frac{f}{18}$$

$$288 = 24f$$

$$12 = f$$

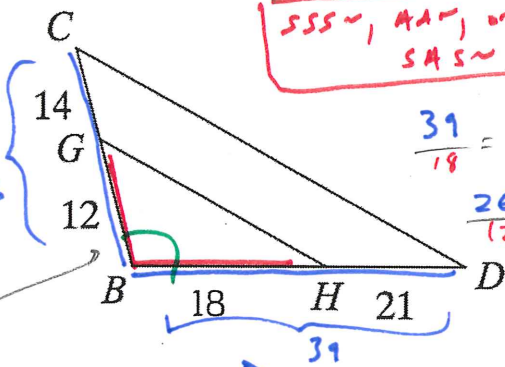
$$\frac{14}{g} = \frac{16}{24}$$

$$336 = 16g \rightarrow 21 = g$$

SRT-A3

In each pair below, justify why the triangles are similar. Then, complete the similarity statement.

3.



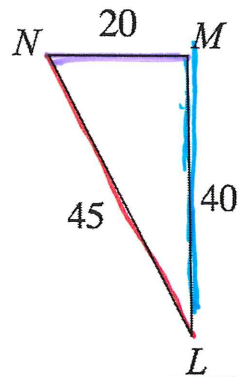
SSS, AA, or SAS

$$\frac{39}{18} = \frac{13}{6}$$

$$\frac{26}{12} = \frac{13}{6}$$

Included Angle!

$\triangle ABC \sim \triangle BGH$   
SAS



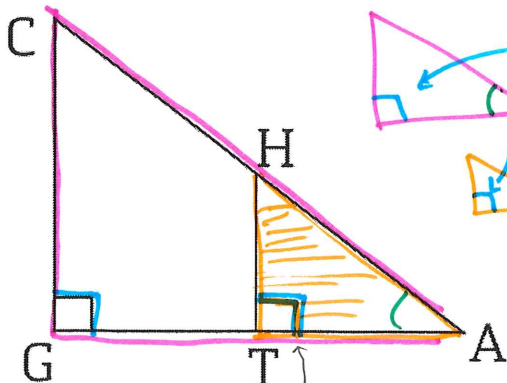
$$\frac{40}{16} = \frac{5}{2} \text{ or } 2.5$$

$$\frac{20}{8} = \frac{5}{2} \text{ or } 2.5$$

$$\frac{45}{18} = \frac{5}{2} \text{ or } 2.5$$

$\triangle LMN \sim \triangle DEF$   
SSS

5.

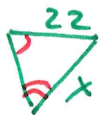
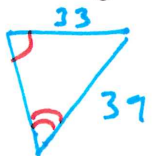
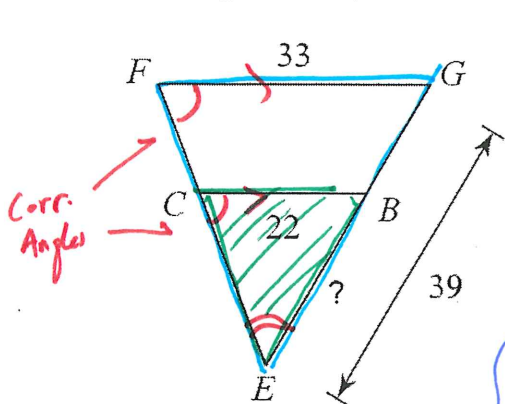


AA  
 $\triangle HAT \sim \triangle CAG$

Suppose to be there.

SRT-B4a

6. In the figure below,  $\overline{FG} \parallel \overline{CB}$ . Find the length of the indicated side.

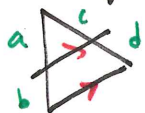


$$\frac{33}{22} = \frac{39}{x} \rightarrow 33x = 858$$

$$\boxed{x = 26}$$

7. Refer to the figure at right. Is  $\overline{FE} \parallel \overline{QR}$ ? Show the calculations that justify your answer.

Triangle Prop. Theorem:

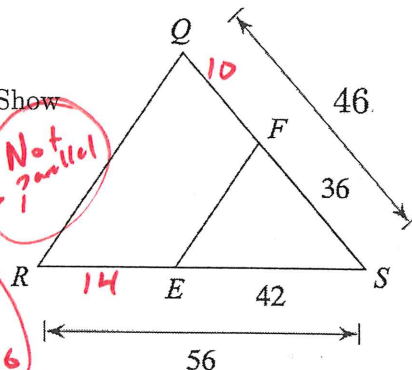


$$\frac{a}{b} = \frac{c}{d}$$

$$\frac{42}{14} = 3$$

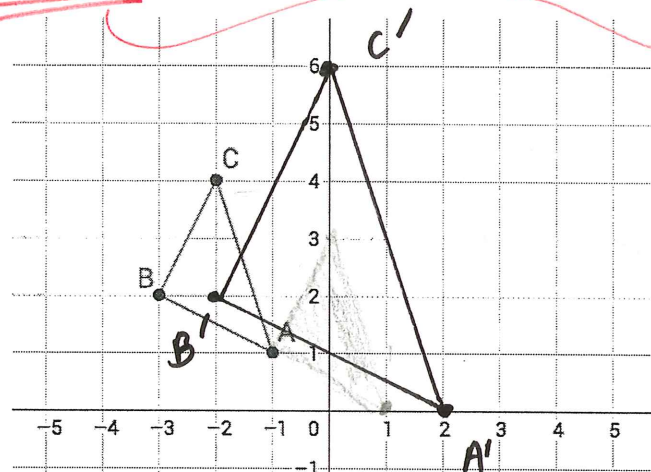
$$\frac{36}{10} = 3.6$$

Not parallel!



SRT-A1a

8. Suppose  $\triangle ABC$  is first translated by  $(x, y) \rightarrow (x + 2, y - 1)$  and is then dilated about the origin with a scale factor of 2 to create  $\triangle A'B'C'$ . Draw and label  $\triangle A'B'C'$ .



right 2, down 1

Multiply scale factor! coordinates by

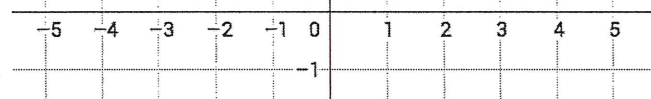
EX:  
 $(1, 0) \rightarrow (2, 0)$   
 $(0, 3) \rightarrow (0, 6)$   
 $(-1, 1) \rightarrow (-2, 2)$

9.  $\triangle ABC$  in the figure has an area of 2.5 units. What is the area of  $\triangle A'B'C'$  after it has been translated and dilated as described in #8?

Linear scale factor: 2

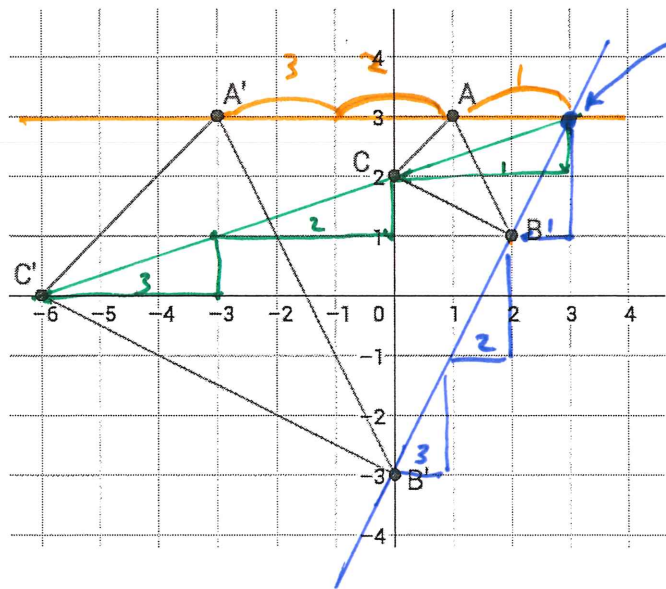
Area scale factor:  $2^2 = 4$

$$2.5 \times 4 = \boxed{10 \text{ sq. units}}$$

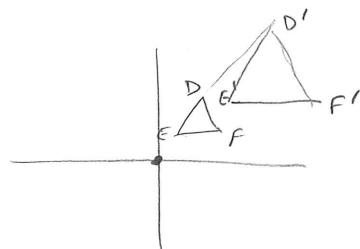


SRT-A1b

9. Determine both the center of dilation and the scale factor in the dilation below.



Center:  $(3, 3)$   
Scale factor: 3



10. Suppose  $\triangle DEF$  (not shown) is dilated about a point lying outside the figure to create  $\triangle D'E'F'$ . Rate each as True/False.

- [F]  $\triangle DEF \cong \triangle D'E'F'$  Dilations create similar figures
- [F]  $\overline{DD'} \parallel \overline{EE'}$  these cross @ center of dilation.
- [T]  $\overline{DE} \parallel \overline{D'E'}$