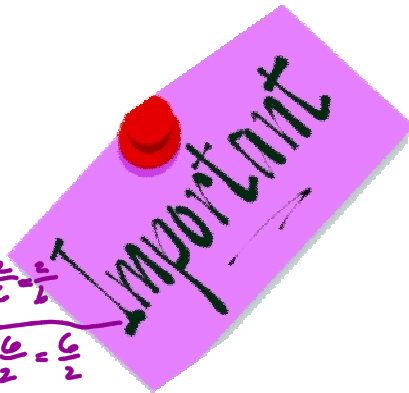
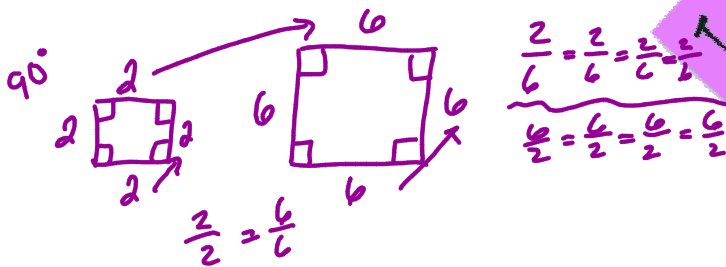


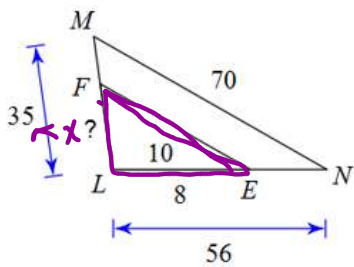
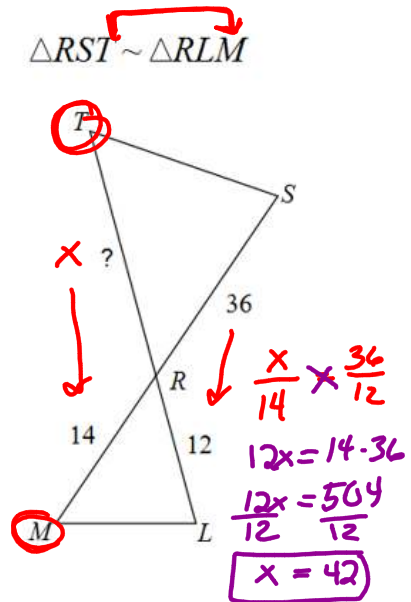
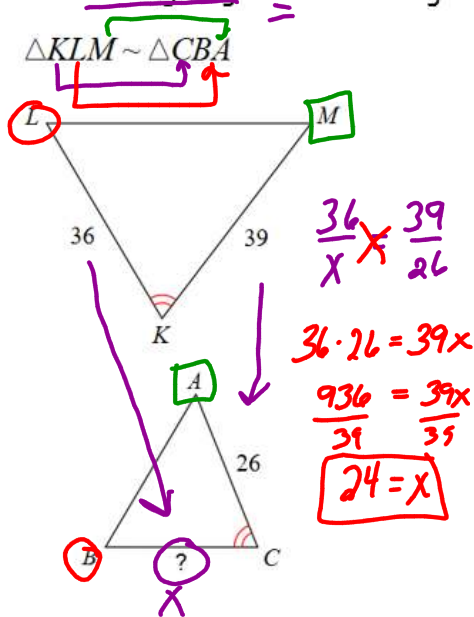
Similarity - A focus on proportional sides

Remember - If polygons are similar...

- ★ 1) Angles are equal
- ★ 2) Sides are proportional



Find the missing length IF the triangles are similar.

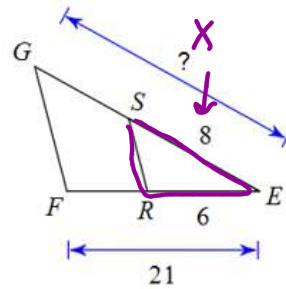


Handwritten calculations:

$$\frac{x}{35} = \frac{8}{56}$$

$$\frac{56x}{56} = \frac{280}{56}$$

$$x = 5$$



Handwritten calculations:

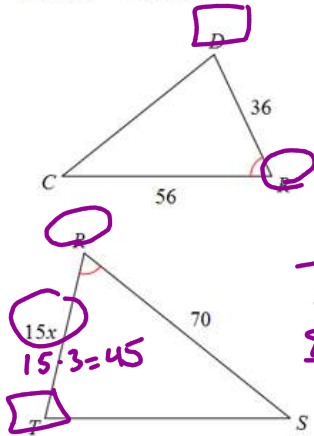
$$\frac{x}{8} = \frac{21}{6}$$

$$\frac{6x}{6} = \frac{168}{6}$$

$$x = 28$$

Given the triangles are similar, find the value of x

~~$\triangle RST \sim \triangle RCD$~~



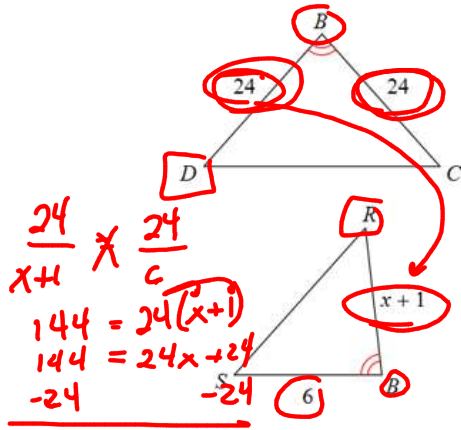
$$\frac{15x}{36} \times \frac{70}{56}$$

$$\frac{840x}{840} = \frac{2520}{840}$$

$$x = 3$$

$15x = 45$
 $15 \cdot 3 = 45$

$\triangle BCD \sim \triangle BSR$



$$\frac{24}{x+1} \times \frac{24}{6}$$

$$144 = 24(x+1)$$

$$144 = 24x + 24$$

$$-24 \quad -24$$

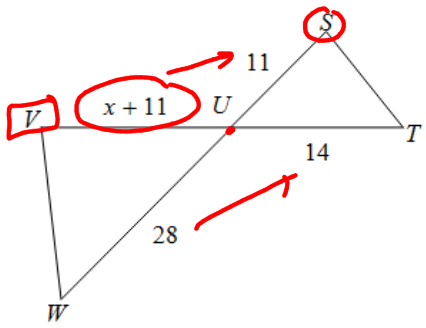
$$120 = 24x$$

$$\frac{120}{24} = \frac{24x}{24}$$

$$5 = x$$

or $6 = x + 1$
 $-1 \quad -1$
 $5 = x$

$\triangle UVW \sim \triangle UST$



$$\frac{x+11}{11} \times \frac{28}{14}$$

$$14(x+11) = 11(28)$$

$$14x + 154 = 308$$

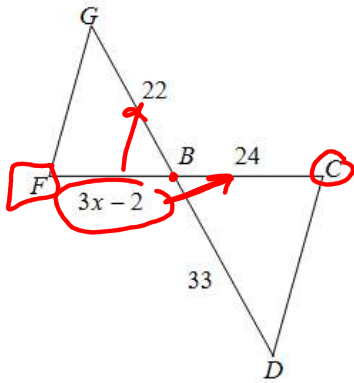
$$-154 \quad -154$$

$$14x = 154$$

$$\frac{14x}{14} = \frac{154}{14}$$

$$x = 11$$

$$\triangle BCD \sim \triangle BFG$$



$$\frac{3x-2}{24} \times \frac{22}{33}$$
$$33(3x-2) = 22(24)$$

$$99x - 66 = 528$$
$$\begin{array}{r} 99x - 66 = 528 \\ +66 \quad +66 \\ \hline 99x = 594 \\ 99 \quad 99 \\ \hline x = 6 \end{array}$$

$$\frac{3x-2}{22} = \frac{24}{33}$$