

Bell Work

If $\triangle \overline{GUQ} \cong \triangle HOP$, list all corresponding parts of the triangles

$$\angle G \cong \angle H$$

$$\angle U \cong \angle O$$

$$\angle Q \cong \angle P$$

$$GU \cong HO$$

$$UQ \cong OP$$

$$GQ \cong HP$$

11.3 Corresponding Parts of Similar Figures

Properties of Similar Figures

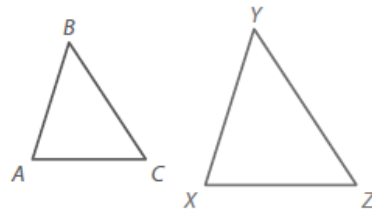
Corresponding angles of similar figures are congruent.

Corresponding sides of similar figures are proportional.

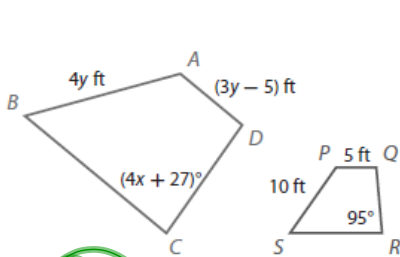
If $\triangle ABC \sim \triangle XYZ$, then

$$\angle A \cong \angle X \quad \angle B \cong \angle Y \quad \angle C \cong \angle Z$$

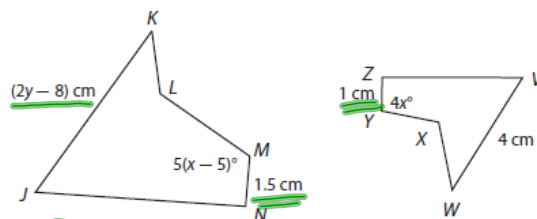
$$\frac{AB}{XY} = \frac{BC}{YZ} = \frac{AC}{XZ}$$



Given that the figures are similar, find the values of x and y .



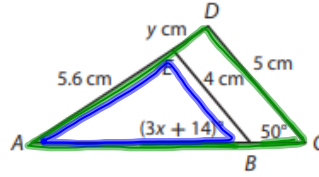
$$\begin{aligned} 5(x-5) &= 4x \\ 5x - 25 &= 4x \\ -4x + 25 & \quad -4x + 25 \\ \hline x &= 25 \end{aligned}$$



$$\begin{aligned} \frac{2y-8}{4} &= \frac{1.5}{1} \\ 2y-8 &= 6 \\ +8 & \quad +8 \\ \hline 2y &= 14 \\ \frac{2y}{2} &= \frac{14}{2} \quad \boxed{y=7} \end{aligned}$$

Your Turn

Use the diagram, in which $\triangle ABE \sim \triangle ACD$.



8. Find the value of x .

$$\begin{array}{r} 3x + 14 = 50 \\ -14 \quad -14 \\ \hline 3x = 36 \\ \frac{3x}{3} = \frac{36}{3} \end{array} \quad x = 12$$

9. Find the value of y .

$$\begin{array}{r} y + 5.6 \\ \hline 5.6 \end{array} \rightarrow \frac{5}{4}$$
$$4(y + 5.6) = 5.6(5)$$
$$\begin{array}{r} 4y + 22.4 = 28 \\ -22.4 \quad -22.4 \\ \hline 4y = 5.6 \\ \frac{4y}{4} = \frac{5.6}{4} \end{array} \quad y = 1.4$$