Bell Ringer: Find the measurement of x. Round to the tenths.

A ___10 ft___ B

7 ft

8 ft

D

C

H   E

6 ft
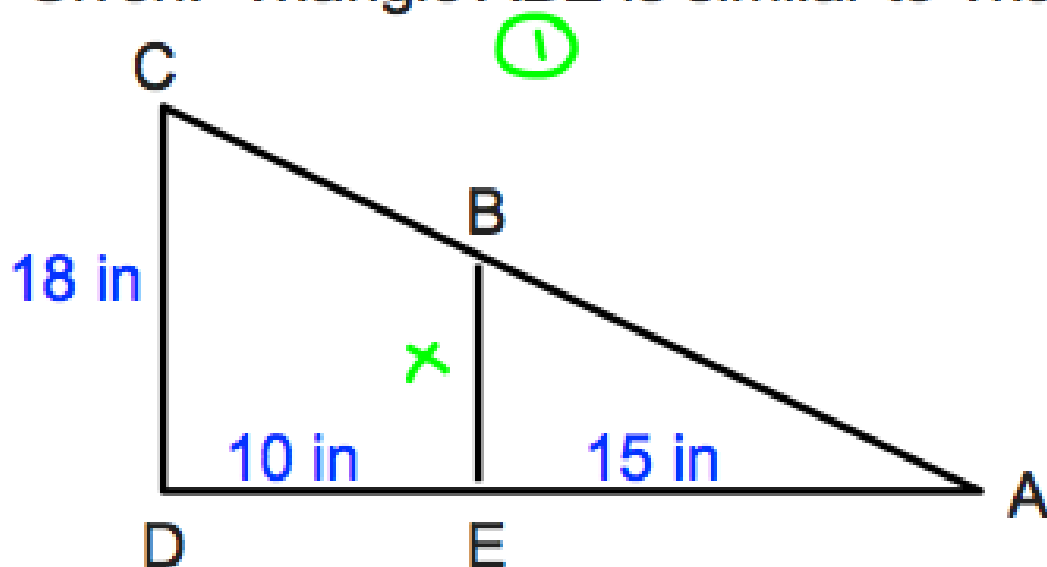
G x F
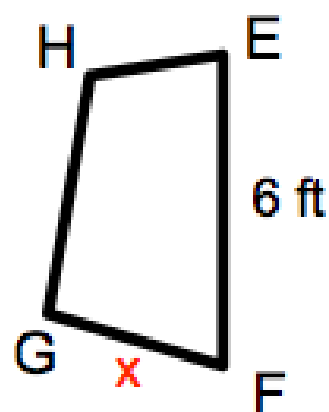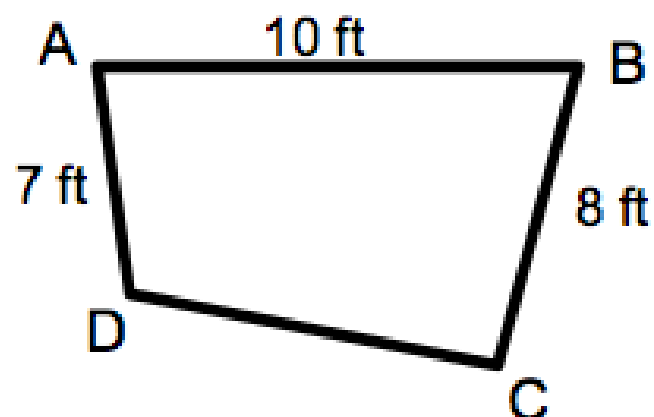
$$\frac{x}{6} = \frac{8}{10}$$

$$10x = 48$$

$$x = 4.8 \text{ ft}$$

Similar Figures Notes Day 2

Key Point - similar figures have proportional side measurements.

Pay careful attention to the proportion set-up.

Given: Triangle ABE is similar to Triangle ACD. Find $\overline{BE}$.

C

18 in

B

x

10 in   15 in

D   E   A

①

②

$$\frac{x}{18} = \frac{15}{25}$$

$$25x = 270$$

$$x = 10.8 \text{ in}$$

$$\frac{x}{15} = \frac{18}{25}$$

$$25x = 270$$

$$x = 10.8 \text{ in}$$

Triangles A and B have side lengths at a 6:9 ratio. The hypotenuse of Triangle A is 27 meters. How long is the hypotenuse of Triangle B?

$$\frac{\text{Triangle A}}{\text{Triangle A}} = \frac{\text{Triangle B}}{\text{Triangle B}} \qquad \frac{6}{27} = \frac{9}{x}$$

$$\frac{\triangle A}{\triangle B} = \frac{\triangle A}{\triangle B} \qquad 6x = 243$$
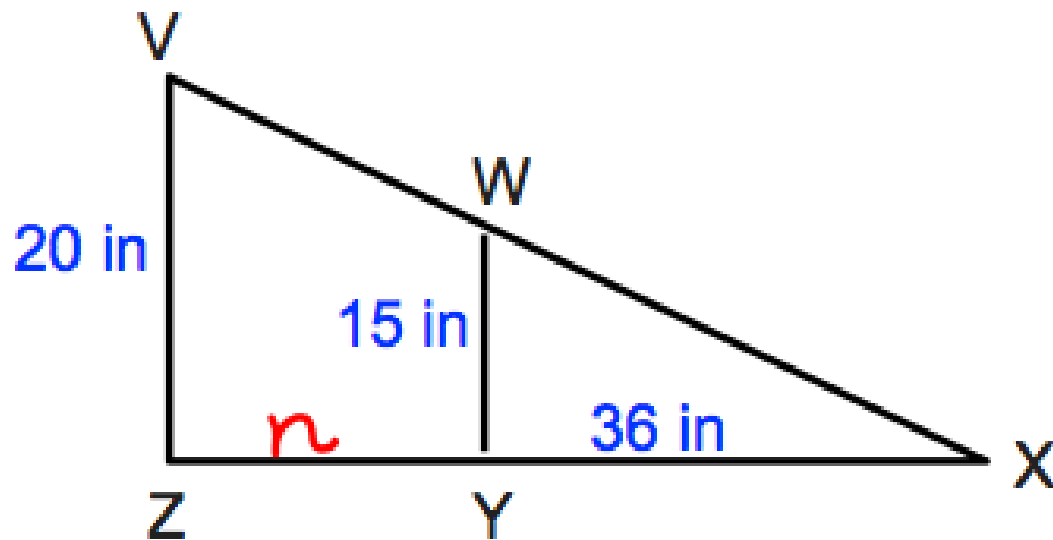
$$x = 40.5 \text{ m}$$

$$\frac{6}{9} = \frac{27}{x} \qquad 6x = 243$$

$$x = 40.5 \text{ m}$$

Given: Triangle VXZ is similar to Triangle WXY. Find $\overline{YZ}$.

V

20 in

W

15 in

n

36 in

Z   Y   X

$$\frac{15}{36} = \frac{20}{n+36}$$
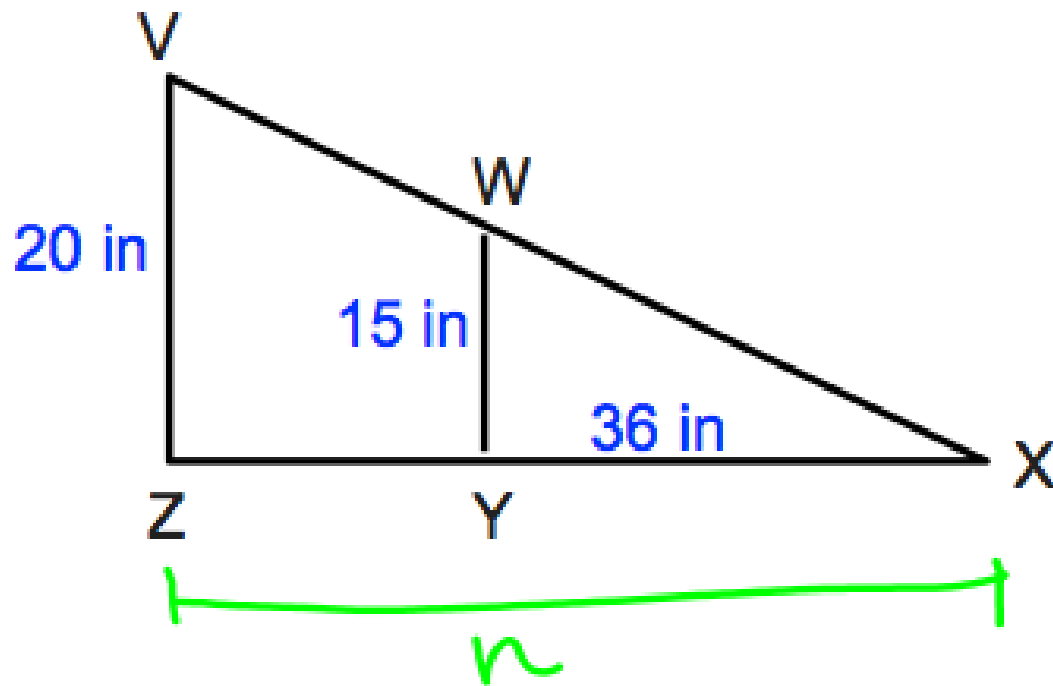
$$15(n+36) = 720$$

$$15n + 540 = 720$$
$$ -540 \quad -540$$

$$15n = 180$$

$$n = 12 \text{ in}$$

Given: Triangle VXZ is similar to Triangle WXY. Find $\overline{YZ}$.

V

20 in

W

15 in

36 in

Z   Y   X

n

$$\frac{15}{36} = \frac{20}{n}$$

$15n = 720$

$n = 48$

$\overline{YZ} = 48 - 36$

$= 12\ in$

Other method