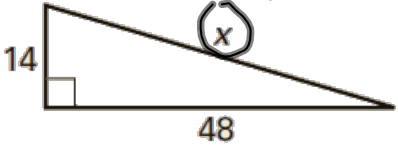
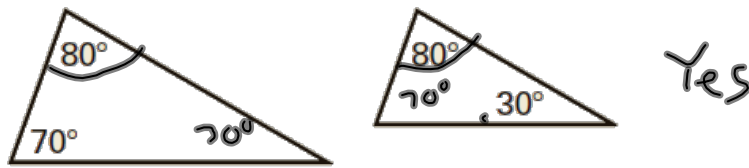


Warm Up

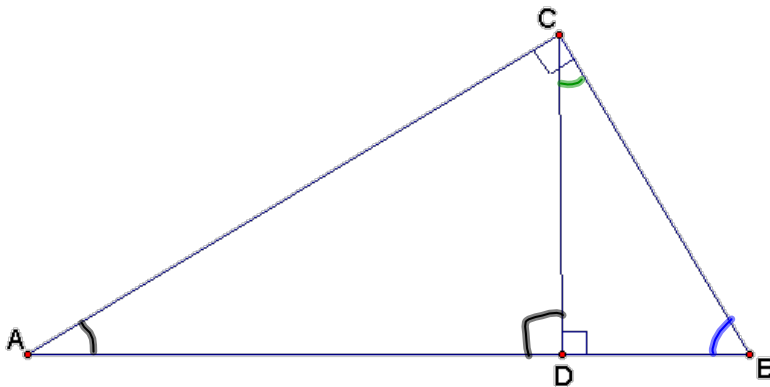
1. Solve for x : $\sqrt{x^2} = \sqrt{50}$ $x = \pm\sqrt{50}$ $x \approx \pm 7.07$

2. Solve for x :  $14^2 + 48^2 = x^2$
 $196 + 2304 = x^2$
 $2500 = x^2$
 $50 = x$

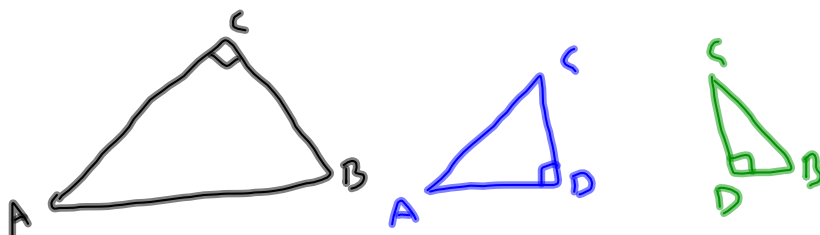
3. Are these triangles similar? If so, give the reason.



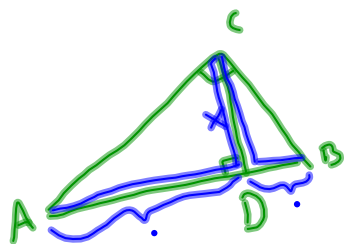
7-3 Notes on Similar Right Triangles



$\triangle ABC \sim \triangle ADC \sim \triangle CDB$

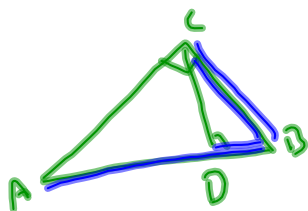


Geometric Mean (Altitude) Theorem



$$\frac{AD}{CD} = \frac{CD}{BD}$$

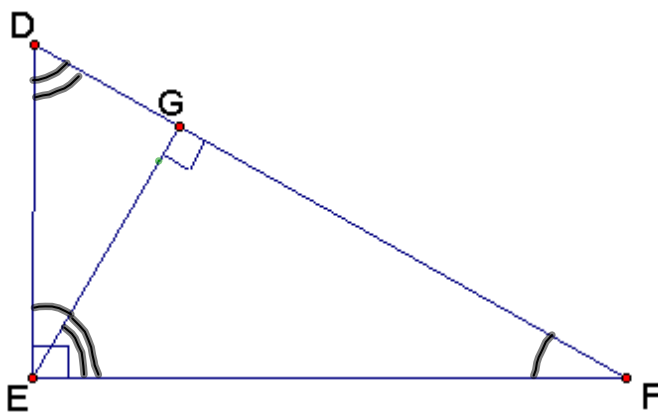
Geometric Mean (Leg) Theorem



$$\frac{AC}{CB} = \frac{CB}{BD}$$

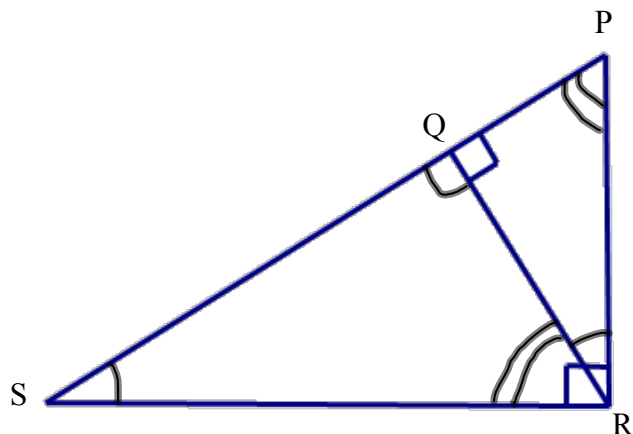
$$\frac{AC}{AD} = \frac{AC}{AD}$$

Ex 1 Identify the similar triangles in the diagram.



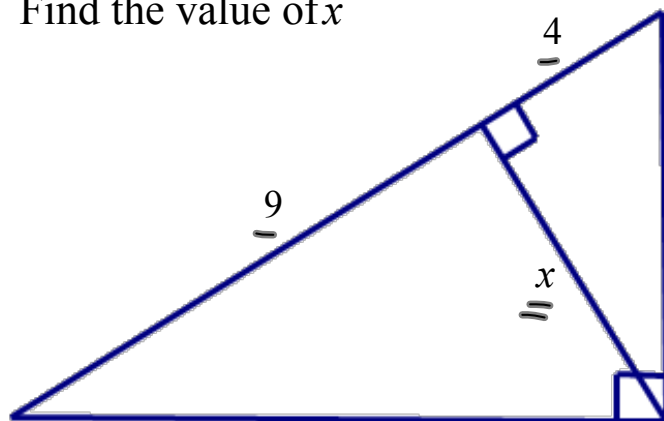
$$\triangle FDE \sim \triangle FEG \sim \triangle EDG$$

Ex 2 Identify the similar triangles in the diagram



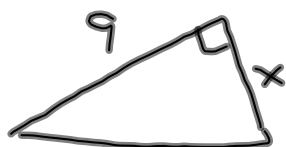
$$\underline{\triangle SPR} \sim \underline{\triangle SRQ} \sim \underline{\triangle RPQ}$$

Ex 3 Find the value of x



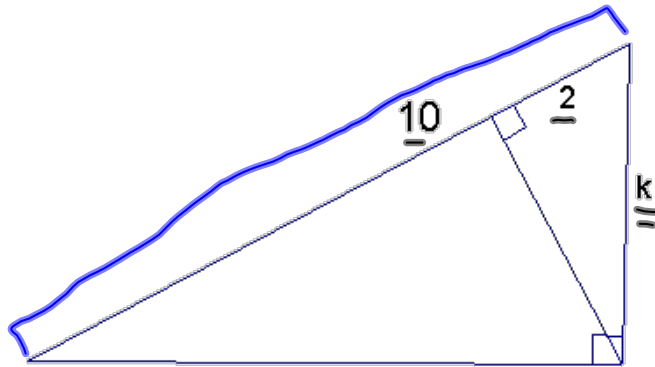
$$x = 6$$

$$x^2 = 36$$



$$\frac{9}{x} = \frac{x}{4}$$

Ex 4 Find the value of k



$k \approx 4.47$

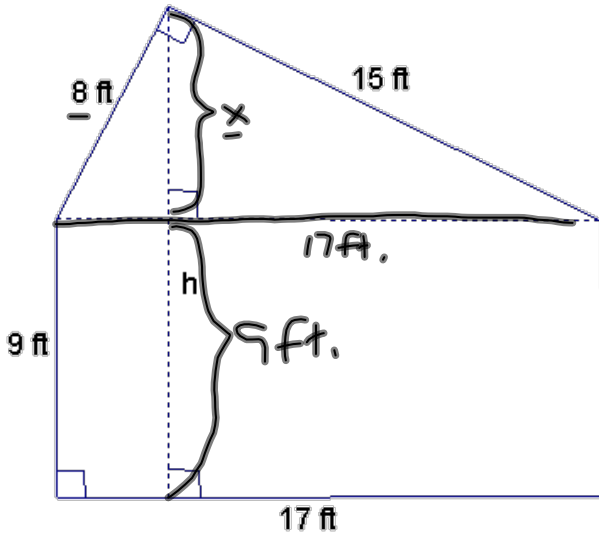


$$\frac{10}{k} = \frac{k}{2}$$

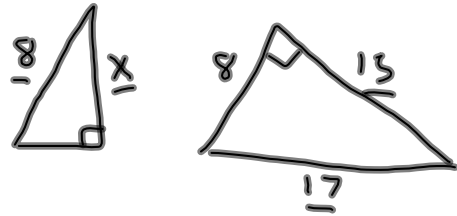
$$k^2 = 20$$

$$k = \sqrt{20} = 2\sqrt{5}$$

Ex 5 The figure shows the side view of a tool shed.
What is the maximum height h , of the shed?

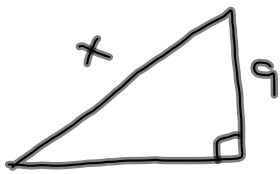
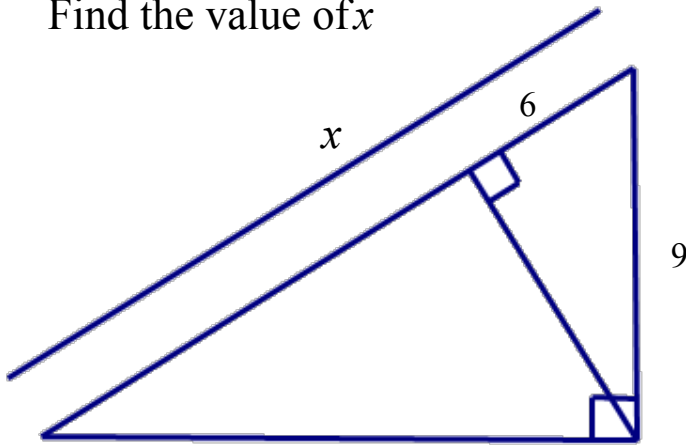


$$\frac{8}{x} = \frac{17}{15} \quad x \approx 7.06 \text{ ft.}$$



$$h = 16.06 \text{ ft}$$

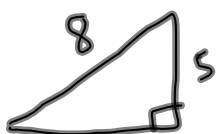
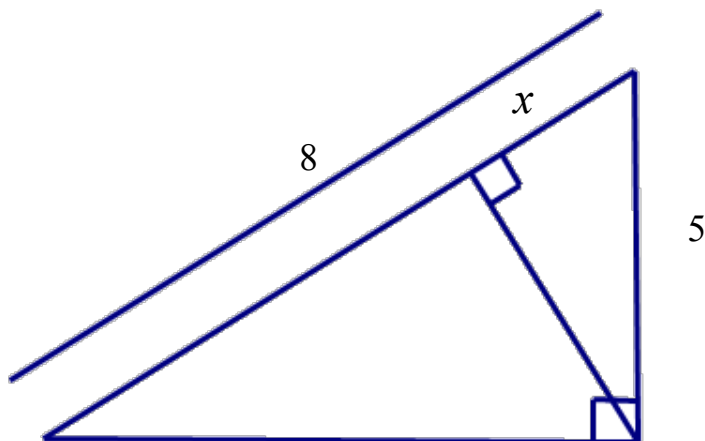
Ex 6 Find the value of x



$$\frac{x}{9} = \frac{9}{6}$$

$$x = 13.5$$

Ex 7 Find the value of x



$$x = 3.125$$

$$\frac{8}{5} = \frac{5}{x}$$