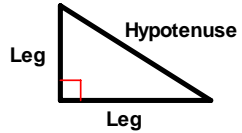
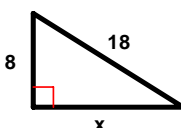


Geometry SOL Practice

Topic #10: Right Triangles

Notes

I. Pythagorean Theorem

Generalization	Example
 <p>Leg Hypotenuse</p> <p>Leg</p> <p>$\text{Leg}^2 + \text{Leg}^2 = \text{Hyp}^2$</p>	 <p>8 18</p> <p>x</p> <p> $8^2 + x^2 = 18^2$ $64 + x^2 = 324$ $x^2 = 260$ $x = \sqrt{260}$ $x \approx 16.12$ </p>

II. Trigonometry

Find x:

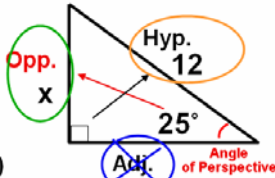
Step 1:
Mark the "Angle of Perspective".

Step 2:
Label the sides.
(opp. / adj. / hyp.)

Step 3:
Select a Trig. Ratio.
(sin / cos / tan)

Step 4:
Put the #s and the x into the equation.

Step 5:
Solve.



$$\sin \angle = \frac{\text{Opp.}}{\text{Hyp.}}$$

$$\sin 25^\circ = \frac{x}{12}$$

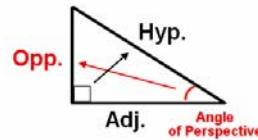
$$x = 5.07$$

SOH CAH TOA

$$\sin \angle = \frac{\text{Opp.}}{\text{Hyp.}}$$

$$\cos \angle = \frac{\text{Adj.}}{\text{Hyp.}}$$

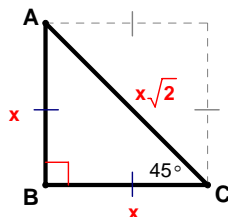
$$\tan \angle = \frac{\text{Opp.}}{\text{Adj.}}$$



$\sin 25^\circ = \frac{x}{12}$ <p>CHANGE "SOMETHING" TO A DECIMAL</p> $0.4226 = \frac{x}{12}$ <p>PUT A "1" UNDERNEATH</p> $\frac{0.4226}{1} = \frac{x}{12}$ <p>CROSS MULTIPLY</p> $x = 5.07$	$\sin 25^\circ = \frac{12}{x}$ <p>CHANGE "SOMETHING" TO A DECIMAL</p> $0.4226 = \frac{12}{x}$ <p>PUT A "1" UNDERNEATH</p> $\frac{0.4226}{1} = \frac{12}{x}$ <p>CROSS MULTIPLY</p> $0.4226x = 12$ $\frac{0.4226x}{0.4226} = \frac{12}{0.4226}$ $x = 28.4$	$\sin x = \frac{12}{25}$ <p>CHANGE "SOMETHING" TO A DECIMAL</p> $\sin x = 0.48$ <p>USE INVERSE SIN</p> $x = \sin^{-1}(0.48)$ $x = 28.6854^\circ$
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III. Special Right Triangles (optional short cut)

45° - 45° - 90°



30° - 60° - 90°

