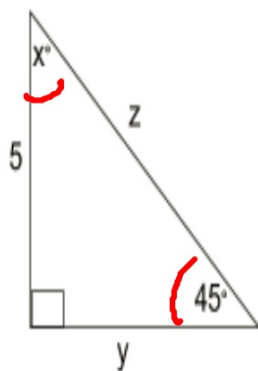


Mixed Practice

Example 1: Given the triangle below, which of the following methods could be used to solve for x , y , and/or z



Special Right Δ

45-45-90

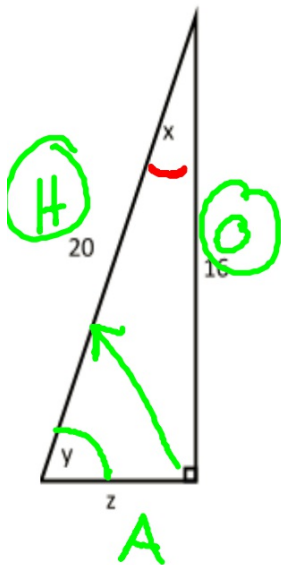
$x - x - \sqrt{2}x$

$$x = \underline{45^\circ}$$

$$y = \underline{5}$$

$$z = \underline{\sqrt{2}(5)}$$

Example 2: Given the triangle below, which of the following methods could be used to solve for x, y, and/or z



* SOH CAH TAA \Rightarrow x, y

* Pythagorean Theorem \Rightarrow z

$$\cos X = \frac{16}{20}$$

$$x = \underline{36.87^\circ}$$

$$y = \underline{53.13^\circ}$$

$$X = \cos^{-1}(16/20)$$

$$z = \underline{12}$$

$$\sin y = \frac{16}{20}$$

$$a^2 + b^2 = c^2$$

$$16^2 + z^2 = 20^2$$

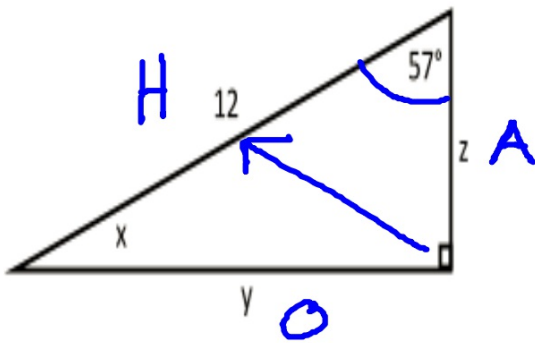
$$y = \sin^{-1}(16/20)$$

$$256 + z^2 = 400$$

$$\begin{array}{r} -256 \\ \hline \end{array} \quad \begin{array}{r} -256 \\ \hline \end{array}$$

$$\sqrt{z^2} = \sqrt{144}$$

Example 3: Given the triangle below, which of the following methods could be used to solve for x, y, and/or z



* SOH CAH TA

~~$$\frac{\sin 57}{1} = \frac{y}{12}$$~~

$$x = 33^\circ$$

$$y = 10.06$$

$$y = 12 \sin 57$$

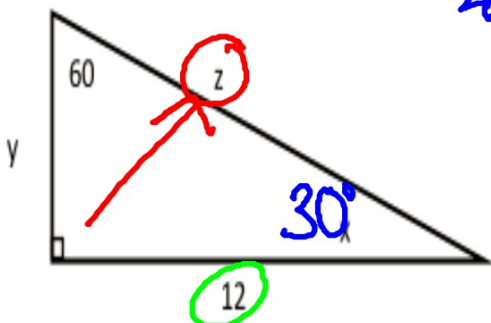
$$z = 6.54$$

~~$$\frac{\cos 57}{1} = \frac{z}{12}$$~~

$$z = 12 \cos 57$$

$$x = 180 - 90 - 57$$

You try #1: Solve for x, y, and z using the method of your choice.



* 30-60-90
X $\sqrt{3}x$ $2x$

x = $\underline{30^\circ}$

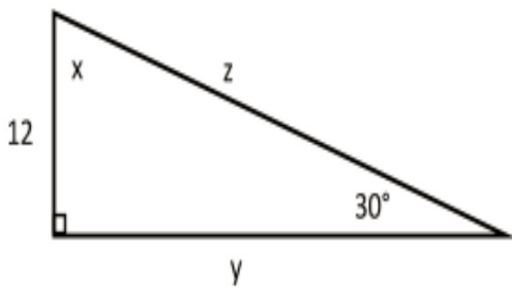
y = $\underline{4\sqrt{3}}$

z = $\underline{8\sqrt{3}}$

$$\frac{12}{\sqrt{3}} = \frac{\sqrt{3}x}{\sqrt{3}}$$

$$\frac{12\sqrt{3}}{\sqrt{3}\sqrt{3}} = \frac{12\sqrt{3}}{3} = \boxed{4\sqrt{3}}$$

You try #2: Solve for x , y , and z using a *different* method, formula, or strategy than you did in You Try #1.



$$x = \underline{60^\circ}$$

$$y = \underline{20.78}$$

$$z = \underline{24}$$