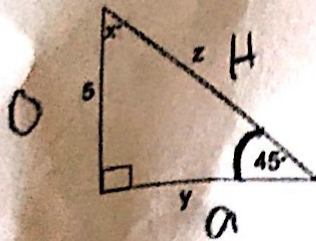


Unit 5 - Solving Right Triangles Practice

Name: Ms. Maher

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



$$x = 180 - 45 - 90$$

$$\sin(45) = \frac{5}{z}$$

$$x = \underline{45}$$

$$\tan(45) = \frac{5}{y}$$

$$z = 5 / \sin(45)$$

$$y = \underline{5}$$

$$\tan(45)y = 5$$

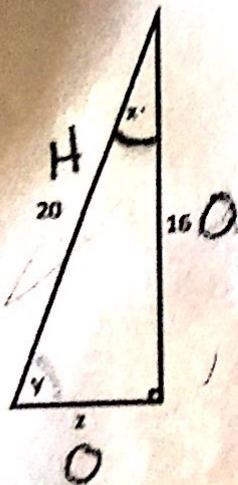
$$z = 7.071$$

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

$$y = 5 / \tan(45)$$

\* Special Right

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



$$\cos(x) = \frac{16}{20}$$

$$\sin(36.87) = \frac{z}{20}$$

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

$$z = 20 \sin(36.87)$$

$$z = 12$$

$$180 \begin{cases} x = \underline{36.87} \\ y = \underline{53.13} \end{cases}$$

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

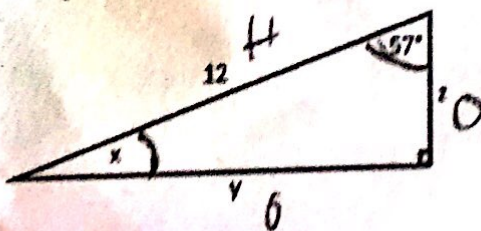
$$z = \underline{12}$$

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

$$\tan(x) = 12/16$$

$$x = \tan^{-1}(12/16)$$

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



$$x = 180 - 90 - 57$$

$$x = \underline{33}$$

$$\sin(33) = \frac{z}{12}$$

$$y = \underline{10.064}$$

$$z = \underline{6.536}$$

$$\sin(57) = \frac{y}{12}$$

$$z = 12 \sin(33)$$

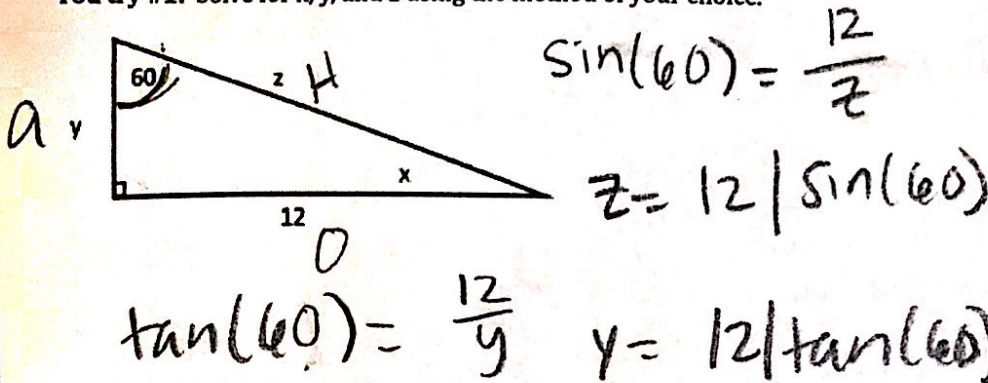
$$y = 12 \sin(57)$$

$$y = 10.064$$

$$10.064^2 + 6.536^2 = 12^2$$

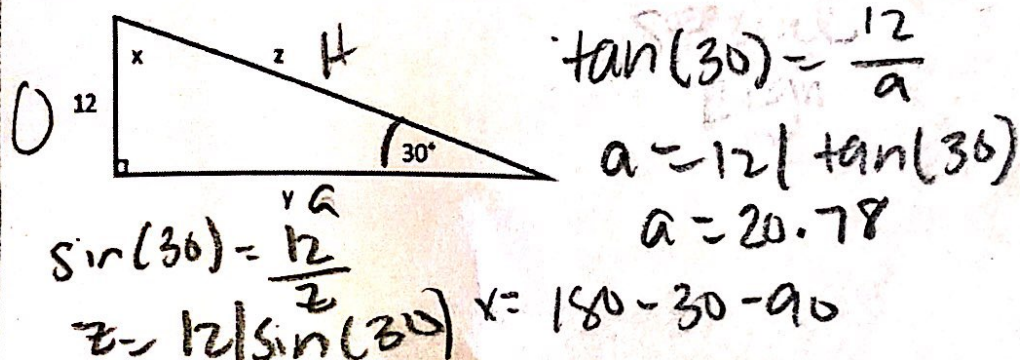
$$144.003 = 144$$

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



$x = 30$   
 $y = 6.93$   
 $z = 13.86$

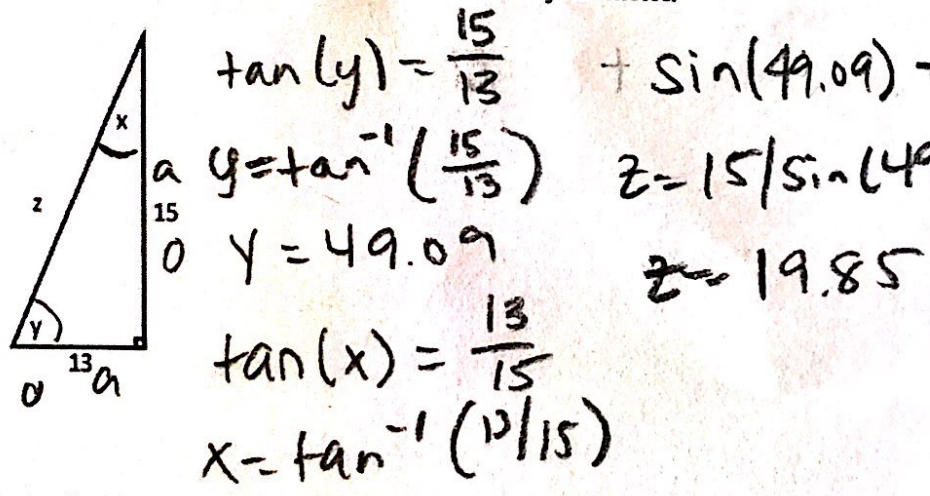
You try #2: Solve for x, y, and z using a different method, formula, or strategy than you did in You Try #1.



$x = 60$   
 $y = 12\sqrt{3} (20.79)$   
 $z = 24$

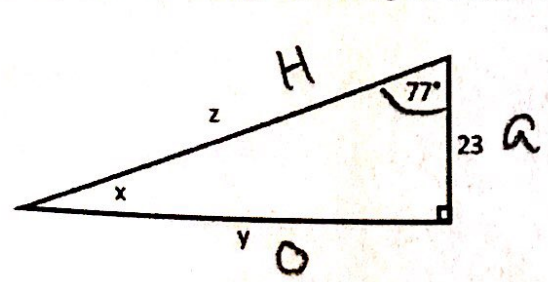
Special Right!

You try #3: Solve for x, y, and z using the method of your choice.



$\sin(49.09) = \frac{15}{z}$   
 $z = 15 / \sin(49.09)$   
 $z = 19.85$

You try #4: Solve for x, y, and z using the method of your choice.



$x = 13$   
 $y = 99.624$   
 $z = 102.24$

$\tan(77) = \frac{y}{23}$   
 $y = 23 \tan(77)$   
 $y = 99.624$   
 $\cos(77) = \frac{23}{z}$   
 $z = 23 / \cos(77)$   
 $z = 102.24$