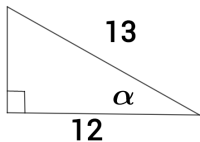


Math 155 - Trigonometry Review Problems

Find $\cos(\alpha)$ for the triangle below:



$$\cos(\alpha) = \frac{\text{adjacent}}{\text{hypotenuse}} = \frac{12}{13}$$

Find the measure of the angle α .

$$\alpha = \cos^{-1}\left(\frac{12}{13}\right) \approx 22.6^\circ$$

Find the measure of the missing side of the above triangle.

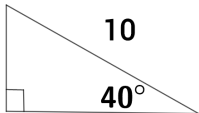
$$\text{If we call the missing side } s \text{ then } \sin(22.6^\circ) = \frac{s}{13}$$

$$s = \sin(22.6^\circ) \times 13 \approx 5$$

Find the $\tan(\alpha)$ and $\sin(\alpha)$.

$$\tan(\alpha) = \frac{\text{opposite}}{\text{adjacent}} = \frac{5}{12} \text{ and } \sin(\alpha) = \frac{\text{opposite}}{\text{hypotenuse}} = \frac{5}{13}$$

Math 155 - Trigonometry Review Problems



Find the measure of all the sides of the triangle.

On the one hand, we can compute $\sin(40^\circ) \approx .64279$

On the other hand, $\sin(40^\circ) = \frac{\textit{opposite}}{10}$

Solving for the opposite by multiplying by 10 we get:

$$\textit{opposite} = 10 \times \sin(40^\circ) \approx .64279 \times 10 \approx 6.4$$

Similarly, $\cos(40^\circ) = \frac{\textit{adjacent}}{10}$, so $\textit{adjacent} = 10 \times \cos(40^\circ) \approx 7.7$