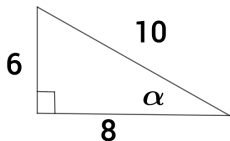


Math 155 - Trigonometry Inverses

Recall: we found that sine, cosine, and tangent are known for all right triangles with a given angle, and depends only on the angle. These values can be found with our calculators depending on just the angle. What about the other direction?

If we know the sine (or cosine, or tangent) of an angle then can we find the angle itself?

Example: What is the angle α ?



We can see that $\sin(\alpha) = \frac{6}{8}$

To get α we use, what is called *inverse sine*

$$\sin^{-1}\left(\frac{6}{8}\right) \approx 48.6^\circ$$

Math 155 - Trigonometry Inverses

In General: If we know the sine of an angle: $\sin(\alpha) = x$ then we can find the angle α using the inverse sine: $\sin^{-1}(x) = \alpha$

Example: