Common Trigonometry Mistakes

Example: Value of inverse cosine

The Goal

Find

$$\cos^{-1}\left(-\frac{1}{2}\right)$$

The Mistake

Find the mistake:

$$\cos^{-1}\left(-\frac{1}{2}\right) = -\frac{\pi}{3}$$

Need a hint? Look carefully at the red part:

$$\cos^{-1}\left(-\frac{1}{2}\right) = -\frac{\pi}{3}$$

The Correction

$$\cos^{-1}\left(-\frac{1}{2}\right) = \frac{2\pi}{3}$$

An Explanation

The range for inverse cosine is the interval from 0 to π. Cosine takes on negative values between π/2 and π. Students should learn the values of the inverse trigonometric functions at nice values - visit Trigonometric Facts to help learn these values.