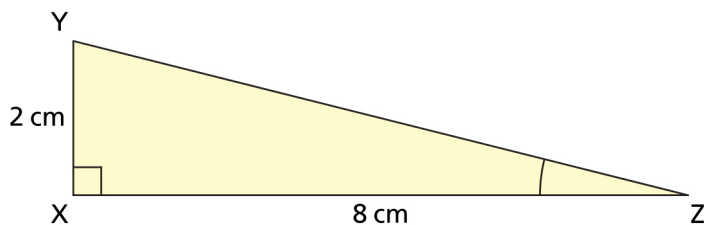


Finding Angles: Tangent

Find an Angle Using Tangent

Determine the measure of angle Z.



Alt Text: This illustration shows a right triangle with opposite side 2 cm and adjacent side 8 cm.

Solution

To determine angle XZY, we must use the information given. Side XY is opposite the angle, and side XZ is the adjacent side. Therefore, we must use tangent.

$$\tan XZY = \frac{\text{opposite}}{\text{adjacent}}$$

$$\tan XZY = \frac{2 \text{ cm}}{8 \text{ cm}}$$

$$\tan XZY = 0.25$$

$$\tan^{-1}(\tan XZY) = \tan^{-1}(0.25)$$

$$XZY = 14^{\circ}$$

Tip

When you are determining $\sin 50^{\circ}$ using your calculator, do not round your answer. If you need to use this value in subsequent steps, wait until you have reached the final answer before rounding. This is the same if you are determining cos or tan using your calculator.