

Cos and Sin Trigonometric Ratios - Guided Lesson Explanation**Explanation#1**

Tangent Ratio: for any acute angle θ of a right triangle.

$$\cos \theta = \frac{\text{adjacent}}{\text{hypotenuse}}$$

$$\text{Step 3) } \cos \theta = \frac{\text{adjacent}}{\text{hypotenuse}}$$

$$\cos \theta = \frac{45}{65}$$

$$\cos \theta = \frac{9}{13}$$

$$\theta = 46.19^\circ$$

$$\sin \theta = \frac{NO}{NM}$$

$$\sin 46.19 = \frac{x}{65}$$

$$x = 46.9 \text{ m}$$

Answer is: 46.9 m

Explanation#2

Tangent Ratio: for any acute angle θ of a right triangle.

$$\sin \theta = \frac{\text{Opposite}}{\text{hypotenuse}}$$

$$\text{Step 3) } \sin \theta = \frac{\text{Opposite}}{\text{hypotenuse}}$$



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$$\sin \theta = \frac{55}{75}$$

$$\sin \theta = \frac{11}{15}$$

$$\theta = 47.17^\circ$$

$$\cos \theta = \frac{AB}{AC}$$

$$\cos 47.17 = \frac{x}{75}$$

$$x = 50.99 \text{ m}$$

Answer is: 50.99 m

Explanation#3

Tangent Ratio: for any acute angle θ of a right triangle.

$$\sin \theta = \frac{\textit{Opposite}}{\textit{hypotenuse}}$$

$$\text{Step 3) } \sin \theta = \frac{\textit{Opposite}}{\textit{hypotenuse}}$$

$$\sin 25^\circ = \frac{20}{x}$$

$$\sin 25^\circ x = 20$$

$$x = 20 \times 0.4226$$

(the value of $\sin 25^\circ$ is .4226)

$$x = 8.452$$

Answer is: 8.452

