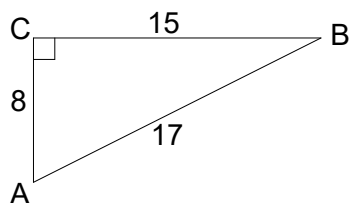


1. Write the ratio:



$\sin A =$

$\cos B =$

$\tan A =$

2. Write as a decimal:

$\sin 27^\circ =$

$\cos 82^\circ =$

$\tan 4^\circ =$

3. Find the angle:

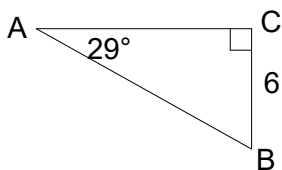
$\sin A = 0.9511$ , so  $m\angle A =$

$\cos B = 0.8387$ , so  $m\angle B =$

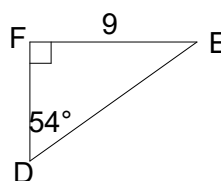
$\tan C = 3.4874$ , so  $m\angle C =$

Solve for the given variable

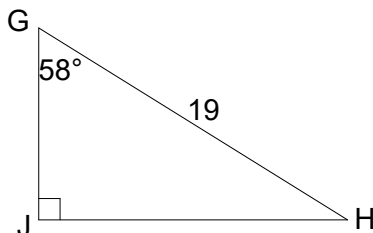
4. AC =



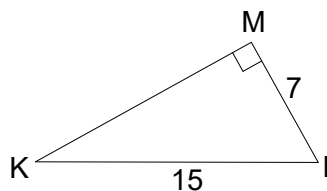
5. DE =



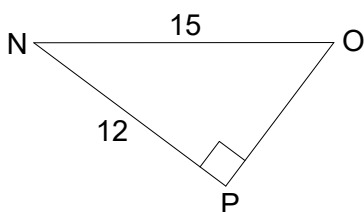
6. GJ =



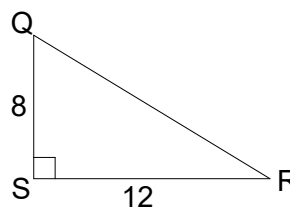
7.  $m\angle K =$



8.  $m\angle N =$



9.  $m\angle Q =$



10. The highest point on Angel Island is the peak of Mount Caroline Livermore, at 788 feet above sea level. From that peak, a hiker sees a sailboat out on The Bay at an angle of depression of  $4^\circ$ . To the nearest 100 feet, how far away is the sailboat from a point at sea level directly below the hiker's feet?

# ANSWERS

## 1. Write the ratio:

$$\sin A = \frac{15}{17}$$

$$\cos B = \frac{15}{17}$$

$$\tan A = \frac{15}{8}$$

## 2. Write as a decimal:

$$\sin 27^\circ = 0.4540$$

$$\cos 82^\circ = 0.1392$$

$$\tan 4^\circ = 0.0699$$

## 3. Find the angle:

$$\sin A = 0.9511, \text{ so } m\angle A = 72^\circ$$

$$\cos B = 0.8387, \text{ so } m\angle B = 33^\circ$$

$$\tan C = 3.4874, \text{ so } m\angle C = 74^\circ$$

## Solve for the given variable

4.  $AC = 10.8$

$$\tan 29^\circ = \frac{6}{AC}$$

$$AC = \frac{6}{\tan 29^\circ}$$

5.  $DE = 11.1$

$$\sin 54^\circ = \frac{9}{DE}$$

$$DE = \frac{9}{\sin 54^\circ}$$

6.  $GJ = 10.1$

$$\cos 58^\circ = \frac{GJ}{19}$$

$$GJ = 19 \times \cos 58^\circ$$

7.  $m\angle K = 28^\circ$

$$\sin K^\circ = \frac{7}{15}$$

$$\sin^{-1}\left(\frac{7}{15}\right) \approx \sin^{-1} 0.4667 \approx 27.8^\circ$$

8.  $m\angle N = 37^\circ$

$$\cos N^\circ = \left(\frac{12}{15}\right)$$

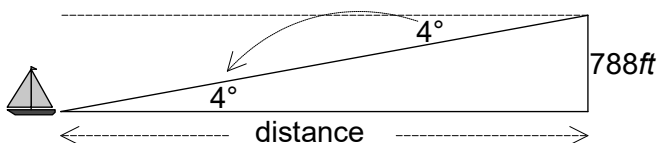
$$\cos^{-1}\left(\frac{12}{15}\right) = \cos^{-1} 0.8 \approx 36.9^\circ$$

9.  $m\angle Q = 56^\circ$

$$\tan Q^\circ = \frac{12}{8}$$

$$\tan^{-1}\left(\frac{12}{8}\right) = \tan^{-1}(1.5) \approx 56.3^\circ$$

10. distance =  $788 \div \tan 4^\circ \approx 11,273 \approx 11,300$  ft



$$\tan 4^\circ = \frac{788}{\text{distance}}$$