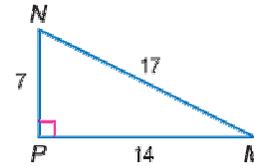


Lesson 14-1

Example 1

- Find $\sin M$.
- Find $\cos M$.
- Find $\tan N$.



Solution

$$\begin{aligned} \text{a. } \sin M &= \frac{\text{opposite}}{\text{hypotenuse}} \\ &= \frac{7}{17} \end{aligned}$$

$$\begin{aligned} \text{b. } \cos M &= \frac{\text{adjacent}}{\text{hypotenuse}} \\ &= \frac{14}{17} \end{aligned}$$

$$\begin{aligned} \text{c. } \tan N &= \frac{\text{opposite}}{\text{adjacent}} \\ &= \frac{14}{7} = \frac{2}{1} = 2 \end{aligned}$$

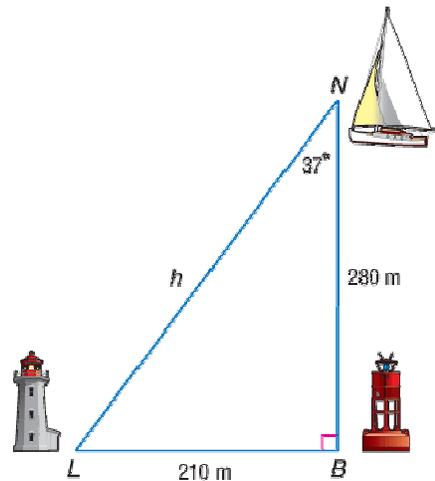
Example 2

NAVIGATION A navigator at N sights a 37° angle between a buoy at B and a landmark at L . Find $\sin 37^\circ$.

Solution

You can use the Pythagorean Theorem to find the length of the hypotenuse.

$$\begin{aligned} 280^2 + 210^2 &= h^2 \\ 122,500 &= h^2 \\ 350 &= h \\ \sin 37^\circ &= \frac{210}{350} \\ &= 0.6 \end{aligned}$$



Example 3

CALCULATOR An angle has a cosine of 0.79. Find the measure of the angle to the nearest degree.

Solution

On a scientific calculator, press $\boxed{.}$ $\boxed{7}$ $\boxed{9}$ $\boxed{\cos^{-1}}$. (Some calculators use $\boxed{2nd}$ $\boxed{\cos}$ or \boxed{INV} $\boxed{\cos}$ rather than $\boxed{\cos^{-1}}$.) The display should read 37.81448851... . To the nearest degree, an angle with a cosine of 0.79 measures 38° .