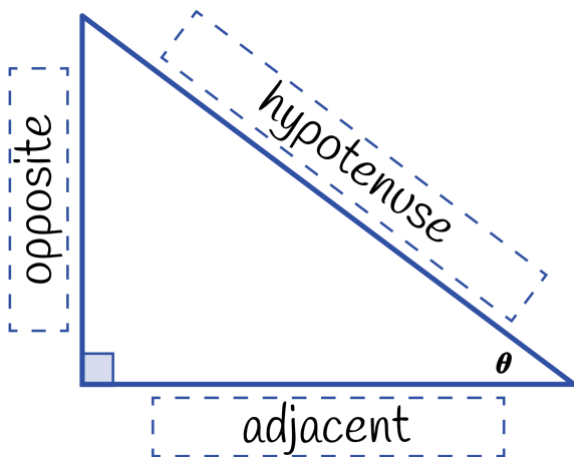


GUIDED NOTES: RIGHT-TRIANGLE TRIGONOMETRY

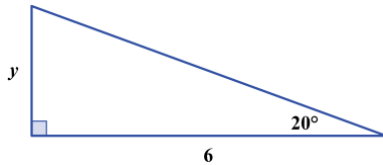


$$\sin \theta = \frac{\textit{opposite}}{\textit{hypotenuse}}$$

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

$$\tan \theta = \frac{\textit{opposite}}{\textit{adjacent}}$$

Find the Missing Side:

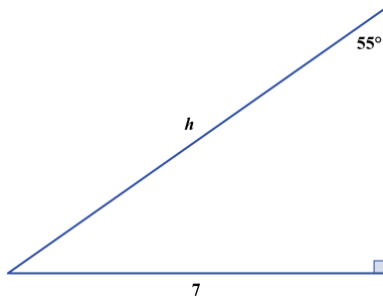


Find the value of y .

$$\tan(20^\circ) = \frac{y}{6}$$

$$\Rightarrow y = 6 \cdot \tan(20^\circ)$$

$$\Rightarrow y \approx 2.2$$



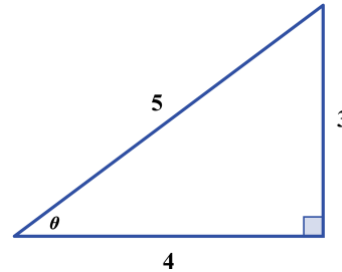
Find the value of h .

$$\sin(55^\circ) = \frac{7}{h}$$

$$\Rightarrow h = \frac{7}{\sin(55^\circ)}$$

$$\Rightarrow h \approx 8.5$$

Find the Missing Angle:



Find the value of θ .

$$\sin \theta = \frac{3}{5}$$

$$\Rightarrow \theta = \sin^{-1}\left(\frac{3}{5}\right)$$

$$\cos \theta = \frac{4}{5}$$

$$\Rightarrow \theta = \cos^{-1}\left(\frac{4}{5}\right)$$

$$\tan \theta = \frac{3}{4}$$

$$\Rightarrow \theta = \tan^{-1}\left(\frac{3}{4}\right)$$

$$\theta \approx 37^\circ$$

Find the Unknown Value

Question 1

In right triangle $\triangle ABC$, where B is the right angle, the length of \overline{AB} is 8 inches, and $\sin C = \frac{4}{7}$. What is the value of $\cos A$?

- (A) $\frac{3}{7}$
- (B) $\frac{4}{7}$
- (C) $\frac{3}{\sqrt{33}}$
- (D) $\frac{4}{\sqrt{33}}$
- (E) $\frac{4}{\sqrt{65}}$

Question 2

In $\triangle JKL$, shown in the figure below, $\overline{KM} \perp \overline{JL}$, $\overline{KL} = 40$ feet, $\angle JKL$ is a right angle, and the measure of $\angle KJL$ is 30° . What is the value of KM , in feet?

- (F) 20
- (G) $20\sqrt{3}$
- (H) 40
- (J) $40\sqrt{3}$
- (K) 80

