

You will find trigonometric ratios using triangles



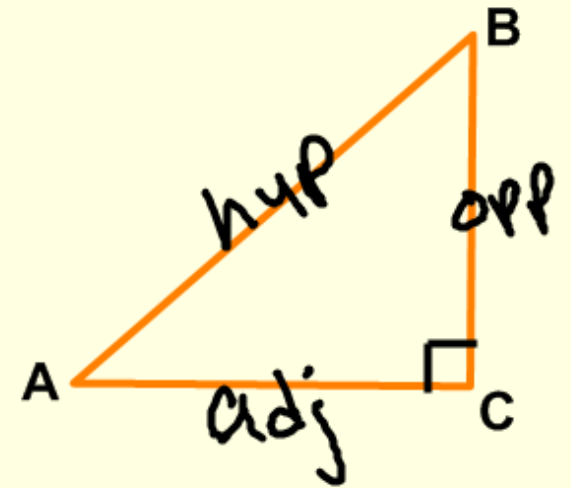
You will use trigonometric ratios to find angle measures or side lengths in right triangles.

SOH CAH TOA

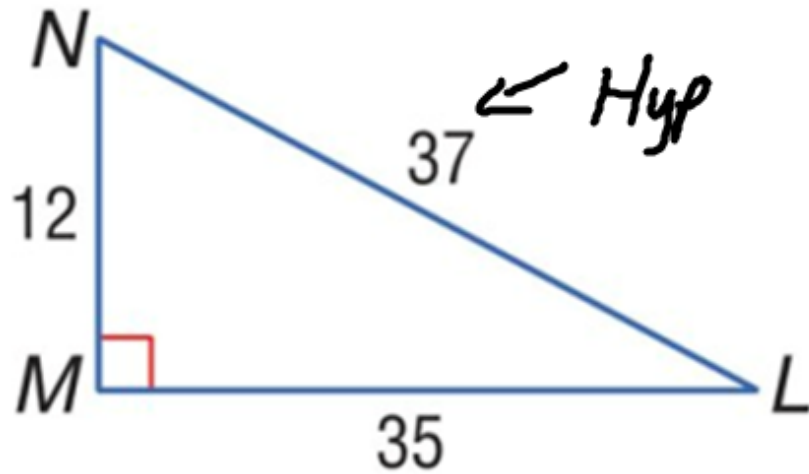
$$\text{Sine } A = \frac{\text{Opposite}}{\text{hypotenuse}} = \frac{\text{opp}}{\text{hyp}}$$

$$\text{Cosine } A = \frac{\text{adjacent}}{\text{hypotenuse}} = \frac{\text{adj}}{\text{hyp}}$$

$$\text{tangent } A = \frac{\text{opposite}}{\text{adjacent}} = \frac{\text{opp}}{\text{adj}}$$



$$\sin = \frac{\text{opp}}{\text{hyp}}$$
$$\cos = \frac{\text{adj}}{\text{hyp}}$$
$$\tan = \frac{\text{opp}}{\text{adj}}$$



Find, write the answer as a fraction and a decimal to the nearest hundredth....

$$\sin L = \frac{12}{37} = 0.32$$

$$\sin N = \frac{35}{37} = 0.94$$

$$\cos L = \frac{35}{37} = 0.94$$

$$\cos N = \frac{12}{37} = 0.32$$

$$\tan L = \frac{12}{35} = 0.34$$

$$\tan N = \frac{35}{12} = 2.91$$

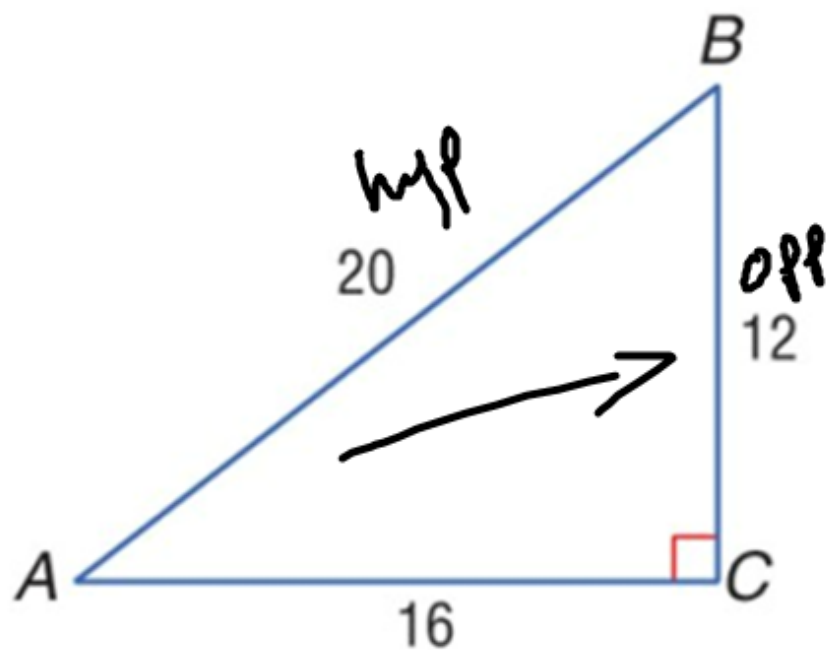
EXAMPLE 1 **Check Your Progress****A. Find $\sin A$.**

A. $\frac{3}{4}$

B. $\frac{3}{5}$

C. $\frac{4}{5}$

D. $\frac{4}{3}$



$$\sin A = \frac{\text{opp}}{\text{hyp}}$$

$$\frac{12}{20} = \frac{3}{5}$$

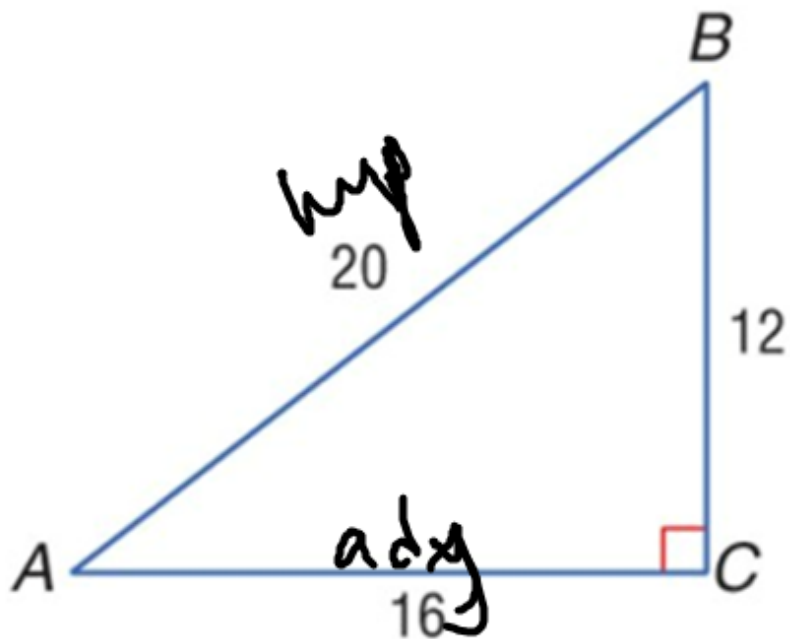
EXAMPLE 1**Check Your Progress****B. Find $\cos A$.**

A. $\frac{3}{4}$

B. $\frac{3}{5}$

C. $\frac{4}{5}$

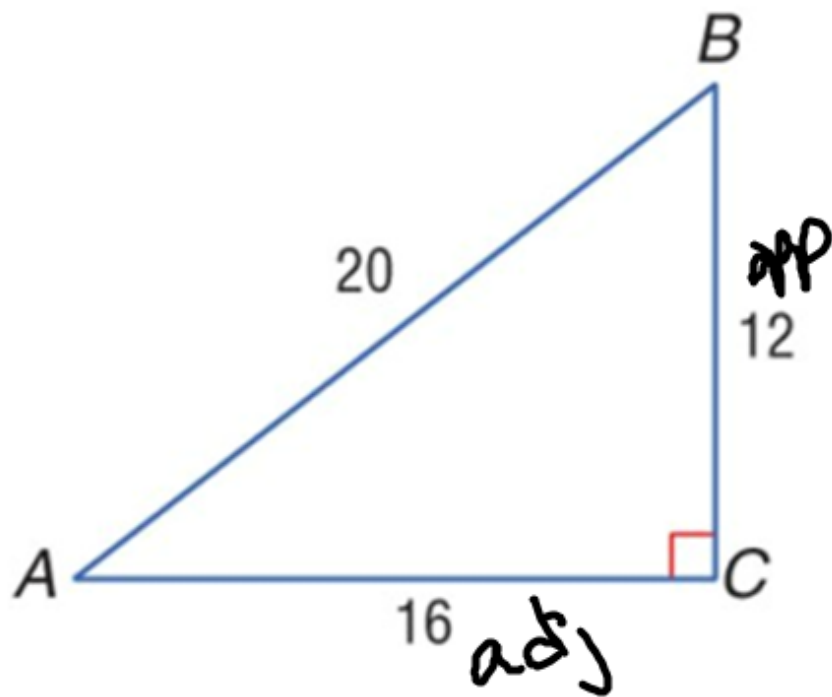
D. $\frac{4}{3}$



$$\frac{16}{20} = \frac{4}{5}$$

EXAMPLE 1**Check Your Progress****C. Find $\tan A$.**

- A.** $\frac{3}{4}$
- B.** $\frac{3}{5}$
- C.** $\frac{4}{5}$
- D.** $\frac{4}{3}$



$$\frac{12}{16} = \frac{3}{4}$$