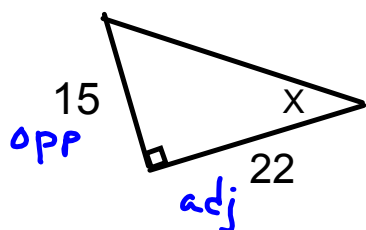


Warm up

April 9

Find the value of x.

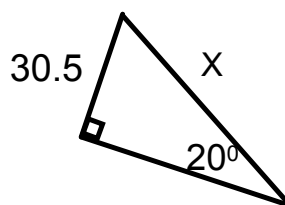


$$\tan \theta = \frac{\text{opp}}{\text{adj}}$$

$$\tan x = \frac{15}{22}$$

$$x = \tan^{-1} \frac{15}{22}$$

$$= 34^\circ$$



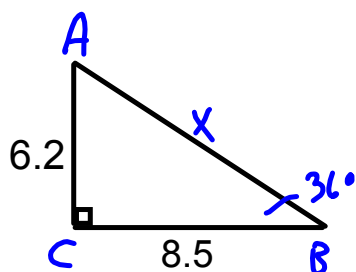
$$\sin \theta = \frac{\text{opp}}{\text{hyp}}$$

$$\sin 20^\circ = \frac{30.5}{x}$$

$$\frac{x \sin 20^\circ}{\sin 20^\circ} = \frac{30.5}{\sin 20^\circ}$$

$$x = 89.2$$

Solve the following triangle.  
(find the missing side and angles)



$$\begin{aligned}
 x^2 &= a^2 + b^2 \\
 &= 6.2^2 + 8.5^2 \\
 &= 100.69 \\
 x &= \sqrt{100.69} \\
 &= 10.5
 \end{aligned}$$

$$\begin{aligned}
 \tan B &= \frac{\text{opp}}{\text{adj}} \\
 &= \frac{6.2}{8.5} \\
 B &= \tan^{-1} \frac{6.2}{8.5} \\
 &= 36^\circ
 \end{aligned}$$

$$\begin{aligned}
 \angle A &= 180^\circ - 90 - 36 \\
 &= 54^\circ
 \end{aligned}$$