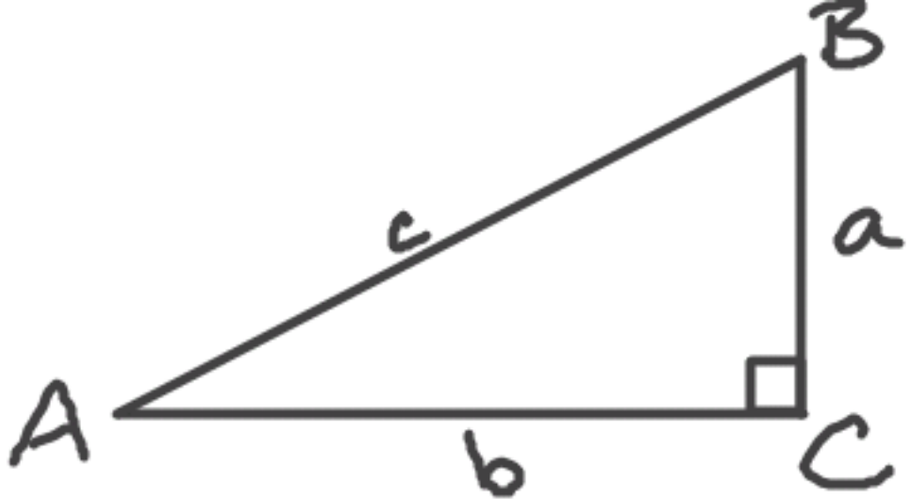
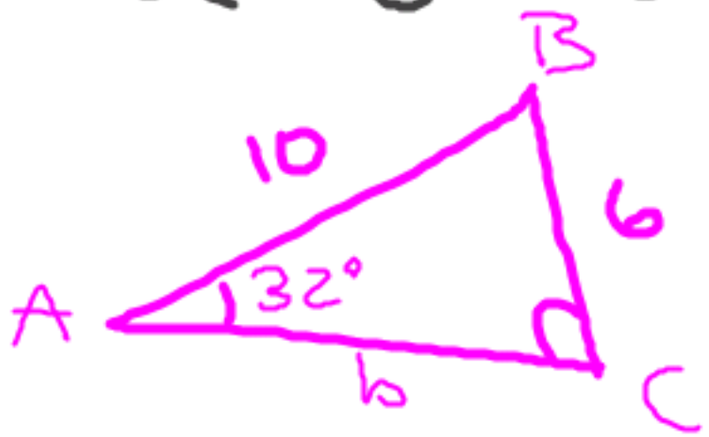


$\angle A + \angle B + \angle C = 180°$

$\angle A + \angle B = 90°$

PYTHAGOREAN THEOREM:

$a^2 + b^2 = c^2$ — hypotenuse



$\angle B = 90 - 32 = 58°$

$6^2 + b^2 = 10^2$

$36 + b^2 = 100$

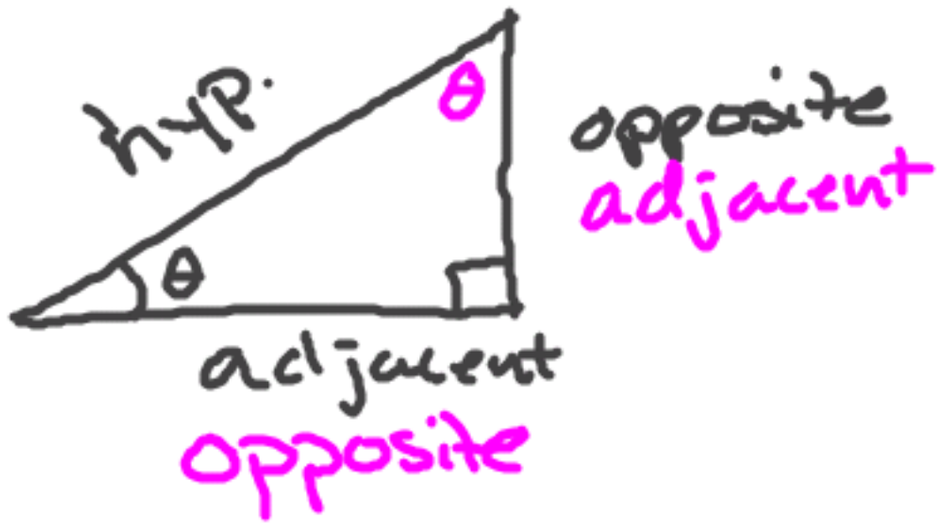
$-36 \quad -36$

$\sqrt{b^2} = \sqrt{64}$

$b = 8$

3 BASIC TRIG FUNCTIONS:

θ = "theta" always an angle.



Sine

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

Cosine

$$\cos\theta = \frac{\text{adj.}}{\text{hyp.}}$$

Tangent

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

ex) Give the 3 TRIG FUNCTIONS:

① Find the missing side
② Label the 3 sides
③ Fill in the fraction for each function

$5^2 + b^2 = 13^2$

$25 + b^2 = 169$

$-25 \quad -25$

$\sqrt{b^2} = \sqrt{144}$

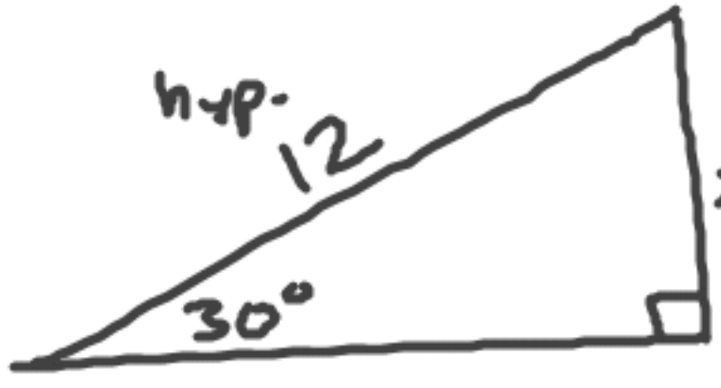
$b = 12$

$\sin\theta = \frac{12}{13}$

$\cos\theta = \frac{5}{13}$

$\tan\theta = \frac{12}{5}$

Given an angle & one side.
Find the indicated side (x)



① Figure out what side we know & what side we want.

② Choose the function that uses those two sides.

Sin uses opp & hyp.

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

$\sin 30° = \frac{x}{12}$

$12 \cdot \sin 30° = \frac{x}{12} \cdot 12$

$12 \sin 30° = x$

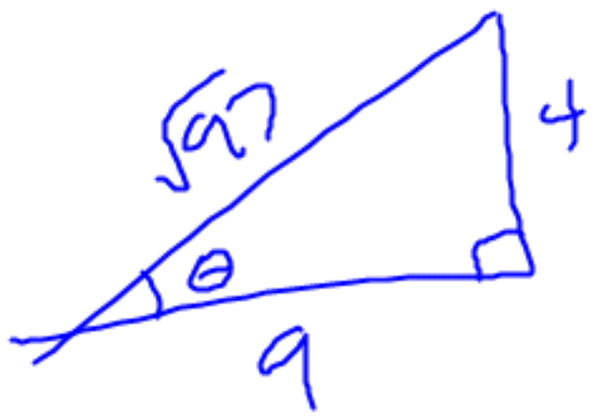
$6 = x$

$$x \cdot \tan 15^\circ = \frac{8}{x} \cdot x$$

$$\frac{x \cdot \tan 15}{\tan 15} = \frac{8}{\tan 15}$$

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

$$x = 29.86$$



$\sin\theta = \frac{4}{\sqrt{97}}$

$\cos\theta = \frac{9}{\sqrt{97}}$

$\tan\theta = \frac{4}{9}$

$4^2 + 9^2 = c^2$

$16 + 81 = c^2$

$97 = c^2$

$\sqrt{97} = c$

706: 16 - 26 E

3 TRIG FUNC.

YELLOW PACKET

11-20 not 14