Questions on 8.1

$$(3\sqrt{3})^2$$
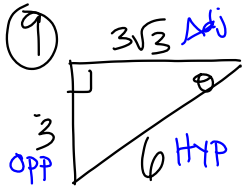
$$3\sqrt{3} \cdot 3\sqrt{3}$$

$$9\sqrt{9}$$

$$9 \cdot 3$$

$$27$$

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⑨

$3\sqrt{3}$ Adj

3 OPP

6 HYP

$$3^2 + (3\sqrt{3})^2 = H^2$$

$$9 + 27 = H^2$$

$$\sqrt{36} = \sqrt{H^2}$$

$$6 = H$$

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$$\sin\theta = \frac{3}{6}\left(\frac{1}{2}\right) \quad \csc\theta = 2$$

$$\cos\theta = \frac{3\sqrt{3}}{6}\left(\frac{\sqrt{3}}{2}\right) \quad \sec\theta = \frac{2}{\sqrt{3}} \frac{\sqrt{3}}{\sqrt{3}} \left(\frac{2\sqrt{3}}{3}\right)$$

$$\tan\theta = \frac{3}{3\sqrt{3}} \frac{1}{\sqrt{3}} \frac{\sqrt{3}}{\sqrt{3}} \left(\frac{\sqrt{3}}{3}\right) \quad \cot\theta = \sqrt{3}$$
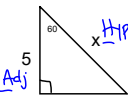
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㉔ $10x^2 - 15x$

$$5x(2x - 3)$$

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8.2 Solving Parts of a Triangle

Remember the Indian chief?

SOH-CAH-TOA

Solve for a side:

SOH-CAH-TOA

x HYP

5 Adj

Label the sides that are marked using opposite, adjacent and hypotenuse

$$\frac{adj}{hyp}$$

$$\cos 60 = \frac{5}{x} \cdot x \quad x\cos 60 = 5$$

$$\frac{x\cos 60}{\cos 60} = \frac{5}{\cos 60}$$

Solve for x:

$$x = \frac{5}{\cos 60} \quad x = 10$$

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$$\sin\theta = \frac{1}{2}$$

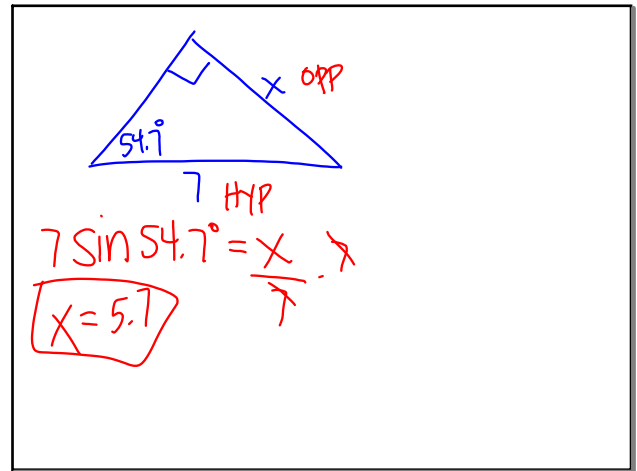2nd sin $\theta = 30°$

$$\sin^{-1}\frac{1}{2}$$

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Inverse Anytime you solve for an angle push [2nd]

$$\sin^{-1}$$

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x OPP

54.7

7 HYP

$$7 \sin 54.7° = \frac{x}{7} \cdot 7$$

$$\boxed{x = 5.7}$$

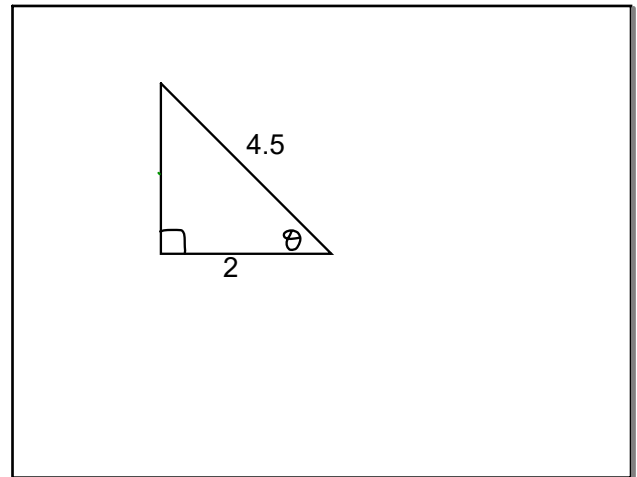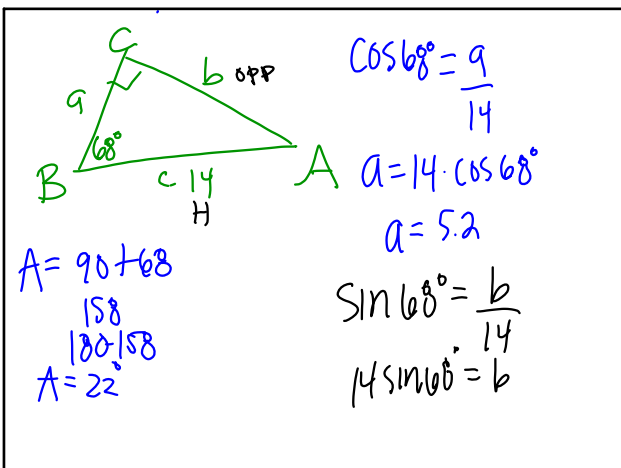*Mar 9-12:18 PM*

Solving for an angle:

To solve for an angle you have to use the inverse trig function

2nd in your calculator

$$\sin^{-1} , \cos^{-1} , \tan^{-1}$$

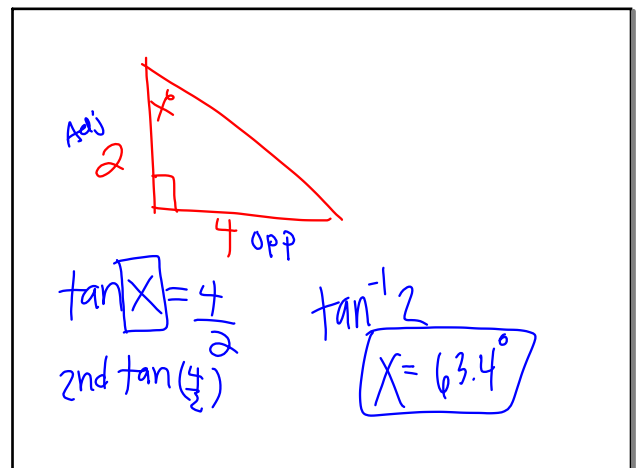Do the same thing as before. Label the sides that are marked using opposite, adjacent or hypotenuse.

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4.5

2

θ

Feb 17-5:05 PM

C
a=9   b OPP
68°
B   c 14   A
   H

$$A = 90 + 68$$
$$158$$
$$180 \, | \, 58$$
$$A = 22°$$

$$\cos 68° = \frac{a}{14}$$
$$a = 14 \cdot \cos 68°$$
$$a = 5.2$$

$$\sin 68° = \frac{b}{14}$$
$$14 \sin 68° = b$$

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Adj
2
x
4 OPP

$$\tan \boxed{x} = \frac{4}{2}$$

2nd tan $\left(\frac{4}{2}\right)$

$$\tan^{-1} 2$$
$$\boxed{x = 63.4°}$$

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$$\sin \theta = \frac{11}{12}$$

$$\boxed{\theta = 66.4°}$$

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Solve a triangle
- Solve all angles
- Solve all sides

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$$\boxed{A = 22°} \qquad \boxed{a = 5.2}$$

$$B = 68° \qquad \boxed{b = 13}$$

$$C = 90° \qquad c = 14$$

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