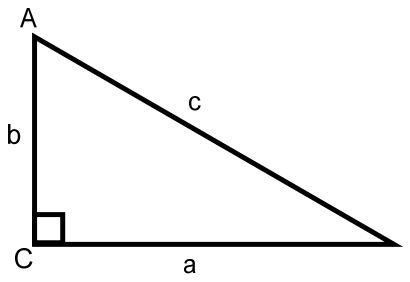
Week 13 Friday Warm-up

Right Triangle Trigonometry

What do you remember from Trig?



1. $\sin B = \frac{opposite}{hypotenuse} = \frac{b}{c}$

2. $\cos B = \frac{adjacent}{hypotenuse} = \frac{a}{c}$

3. $\tan B = \frac{opposite}{adjacent} = \frac{b}{a}$

4. Find sin 45° to nearest ten thousandths. 0.7071

5. Find x to nearest degree.
   cos x = 0.3090 x = 72°

Some people remember the trig ratios with this saying...

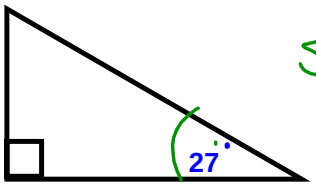
Some Old Hippie....Caught Another Hippie....Trippin' On Acid

others just know : SOH-CAH-TOA

Find the missing side by using the appropriate trig function. Round to the nearest tenth.

Ex. 1

O x



53 m A

$$\tan(27^\circ) = \frac{x}{53}$$

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1

$$53 \bullet \tan(27^\circ) = x$$

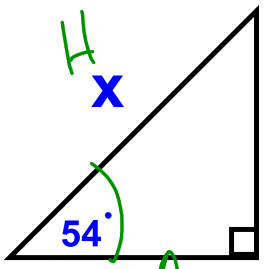
$$x = 27.0\ m$$

Didn't get 27.0???
Check your MODE

Ex. 2

SOH CAH TOA

H x



CAH

A

19 cm

$$\cos(54^\circ) = \frac{19}{x}$$

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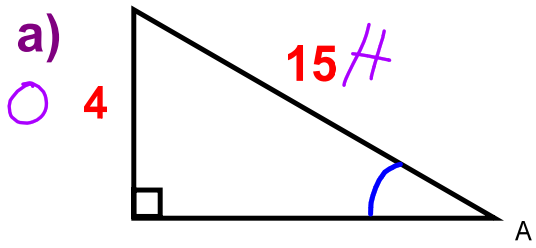
1

$$x \bullet \cos(54^\circ) = 19$$

$$x = \frac{19}{\cos(54^\circ)} \approx$$ 32.3 cm

3. **Use inverse trig functions to find the measure of A to the nearest minute.**

a)



O 4 H

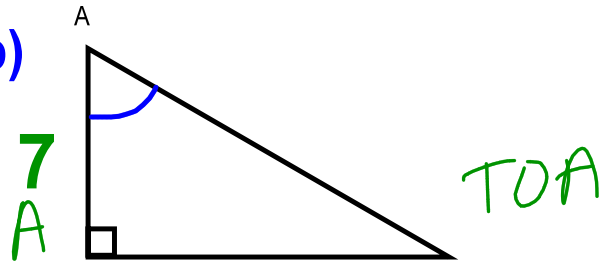
$$\sin A = \frac{4}{15}$$

$$\sin^{-1}\left(\frac{4}{15}\right) = A$$

$$15.46600995 \approx A$$

We need to the nearest minute.

b)



A O TOA

$$\tan A = \frac{16}{7}$$

$$\tan^{-1}(16 \div 7) = A$$

$$66°22' = A$$

☆ There are 60 minutes in a degree and 60 seconds in a minute. ☆

We could do the math to get the answer, but our calculators already have the program to do it for us!

Keeping that terrible decimal for the angle A, please find your ANGLE option (above the APPS).

Choose option 4: DMS

Pay attention to rounding

$$A \approx 15° 28'$$

If 30" or more bump