

Name: _____ Date: _____

Finding Missing Angles

Finding Missing Angles in Right Triangles

When we are trying to find an angle we use INVERSE:

\sin^{-1} for **sin**

\cos^{-1} for **cos**

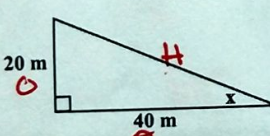
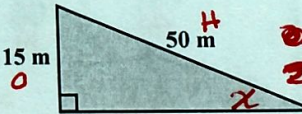
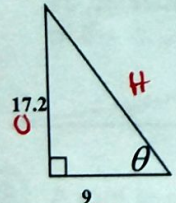
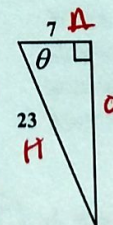
\tan^{-1} for **tan**

Inverse functions
opposite of
our trig functions!

Inverse Trig buttons:

Step 1	Label O, A, H & which to use SOH CAH TOA
Step 2	Set up ratio (fraction)
Step 3	Use inverse trig buttons to find angle

- Hit 2nd
- Then, hit sin, cos, or tan.
- **ALWAYS:** Check that your calculator is in DEGREE MODE!!!

<p>Ex. 1 Figure out which ratio to use, then find x. Round to the nearest tenth.</p> <p>1. Label O, A, H SOH CAH <u>TOA</u></p> <p>2. Set up ratio $\tan x = 20/40$</p> <p>3. Use inverse button $\tan^{-1}(20 \div 40)$</p> <p><u>$= 26.6^\circ$</u></p> 	<p>Ex. 2 Figure out which ratio to use, then find x. Round to the nearest tenth.</p> <p>1. Label O, A, H SOH CAH TOA</p> <p>2. <u>SOH</u> CAH TOA</p> <p>2. Set up ratio $\sin x = 15/50$</p> <p>3. Use inverse $\sin^{-1}(15 \div 50)$</p> <p><u>$= 17.5^\circ$</u></p> 
<p>Ex. 3 Find θ. Round to the nearest degree.</p> <p>SOH CAH <u>TOA</u></p> <p>$\tan \theta = \frac{17.2}{9}$</p> <p>$\tan^{-1}(17.2 \div 9)$</p> <p><u>$= 62.4^\circ$</u></p> 	<p>Ex. 4 Find θ. Round to the nearest degree.</p> <p>SOH <u>CAH</u> TOA</p> <p>$\cos \theta = 7/23$</p> <p>$\cos^{-1}(7/23)$</p> <p><u>$= 72.3^\circ$</u></p> 
<p>Ex. 5: Find $m\angle A$. Round to the nearest degree.</p> <p><u>SOH</u> CAH TOA</p> <p>$\sin \theta = \frac{200}{400}$</p> <p>$\sin^{-1}(200 \div 400)$</p> <p><u>$= 30^\circ$</u></p> 