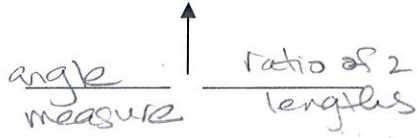


Geometry
Solving Right Triangles (Angles)

Name: Ken
 Date: _____

When using trig functions, the goal is to find either a length ^(side) or an angle measure

$\sin 47^\circ \approx 0.73$



To find a length

sin
cos
tan

To find an angle

\sin^{-1}
 \cos^{-1}
 \tan^{-1} } inverse

How do you use the calculator to find a ratio of two lengths?

$\sin(59)$ Enter

$\sin 59^\circ \approx .86$

How do you use the calculator to find an angle?

$\cos^{-1}(.23)$ Enter

$\cos 71^\circ \approx 0.33$

Calculator Practice

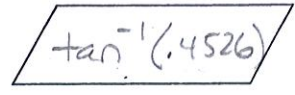
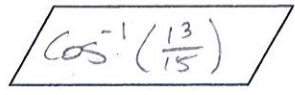
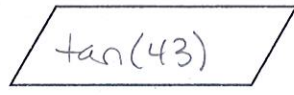
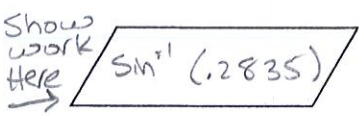
Round all lengths to the nearest hundredth (5.23 feet) and all angles to the nearest degree (47°).

$\sin 16^\circ \approx 0.2835$

$\tan 43^\circ \approx .93$

$\cos 30^\circ = \frac{13}{15}$

$\tan 24^\circ \approx 0.4526$



What is the measure of $\angle Y$?

$\angle Y \approx 68^\circ$



* use tan
trig ratio $\tan \theta = \frac{100}{41}$

calculator $\tan^{-1}(\frac{100}{41}) = \theta$

Use trig functions to find the missing angle measures. Use inverse function!

1. $\tan x = \frac{7}{11}$
 $\tan^{-1}(\frac{7}{11}) = x$
 $\angle x \approx 32^\circ$

2. $\cos x = \frac{3}{5.8}$
 $\cos^{-1}(\frac{3}{5.8}) = x$
 $\angle x \approx 59^\circ$

3. $\sin x = \frac{3}{3\sqrt{5}}$
 $\sin^{-1}(\frac{3}{3\sqrt{5}}) = x$
 $\angle x \approx 27^\circ$

$\frac{3}{3\sqrt{5}} \cdot \frac{\sqrt{5}}{\sqrt{5}} = \frac{\sqrt{5}}{5}$