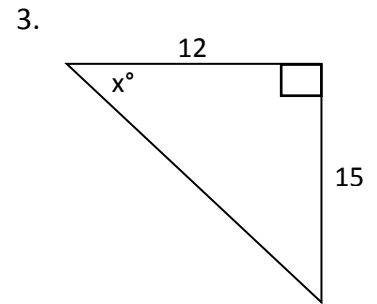
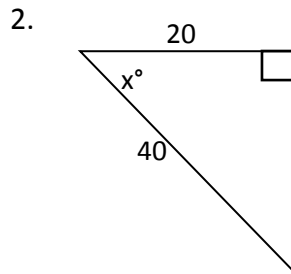
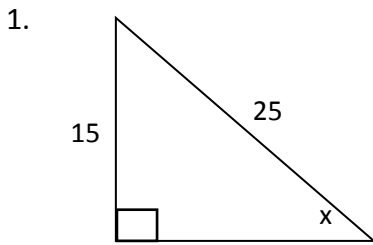


Using what you learned last class set up the correct trig ratios for the following triangles. DO NOT SOLVE FOR X.

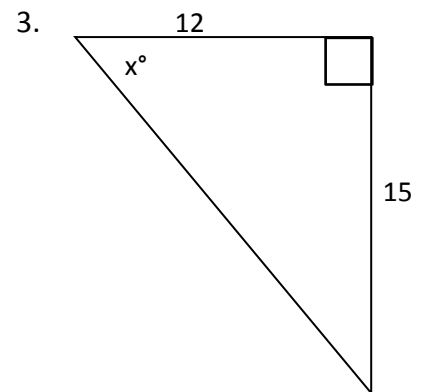
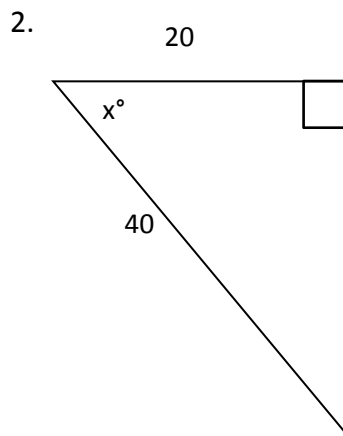
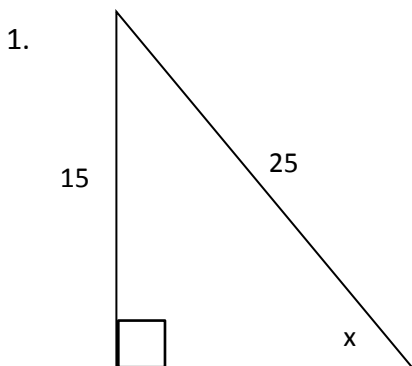


What is different about problems 1-3 compared to the ratios last class? _____

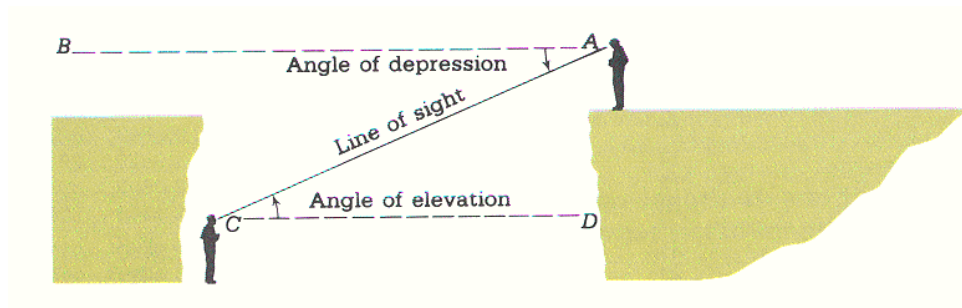
When solving for the measure of an angle you have to use the inverse trig option on your calculator.

$\sin x = \frac{\textit{opposite}}{\textit{hypotenuse}}$	→	$\sin^{-1} \frac{\textit{opposite}}{\textit{hypotenuse}} = x$
$\cos x = \frac{\textit{adjacent}}{\textit{hypotenuse}}$	→	$\cos^{-1} \frac{\textit{adjacent}}{\textit{hypotenuse}} = x$
$\tan x = \frac{\textit{opposite}}{\textit{adjacent}}$	→	$\tan^{-1} \frac{\textit{opposite}}{\textit{adjacent}} = x$

Solve the following using inverse trig.



Angle of Elevation/Depression



4. A tree casts a shadow 21m long. The angle of elevation to the sun is 51° . What is the height of the tree?
5. From the top of a lighthouse 160 feet high, the angle of depression of a boat out at sea is 24° . Find to the the distance from the boat to the foot of the lighthouse, if the foot of the lighthouse is at sea level.
6. A trolley car track rises vertically 40 feet over a horizontal distance of 630 feet. What is the angle of elevation of the track?