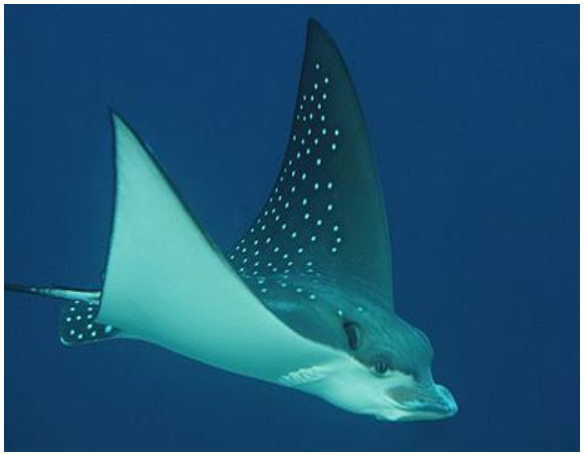
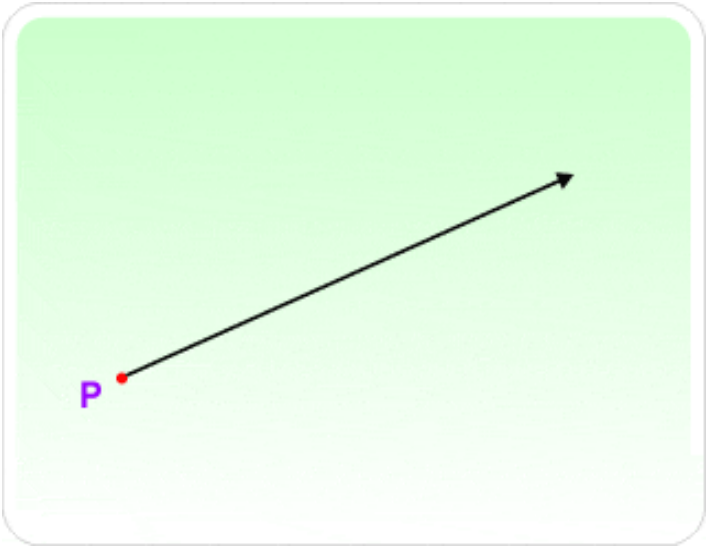
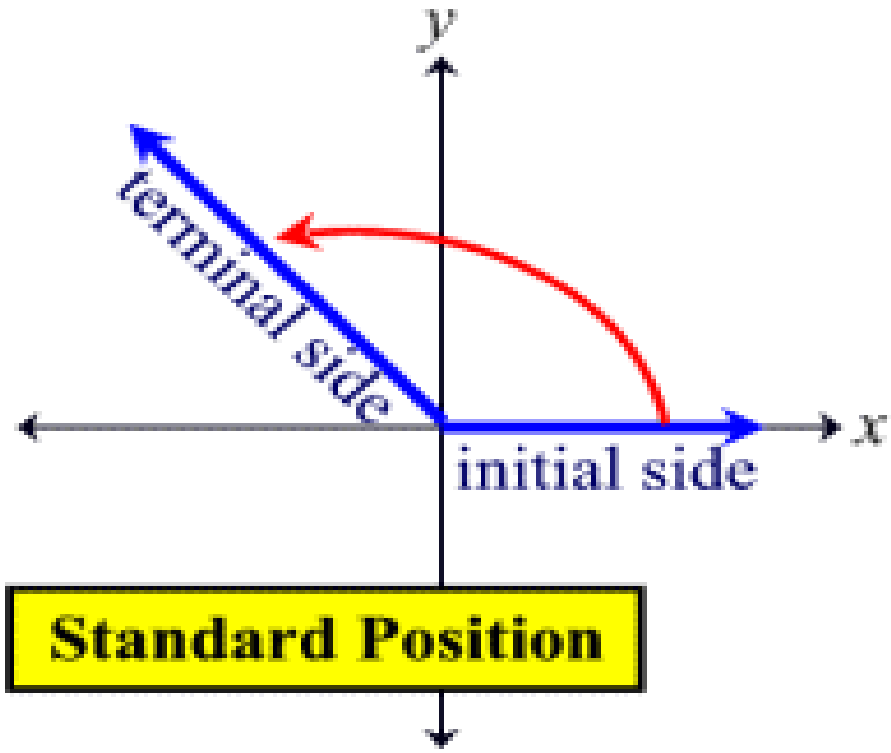
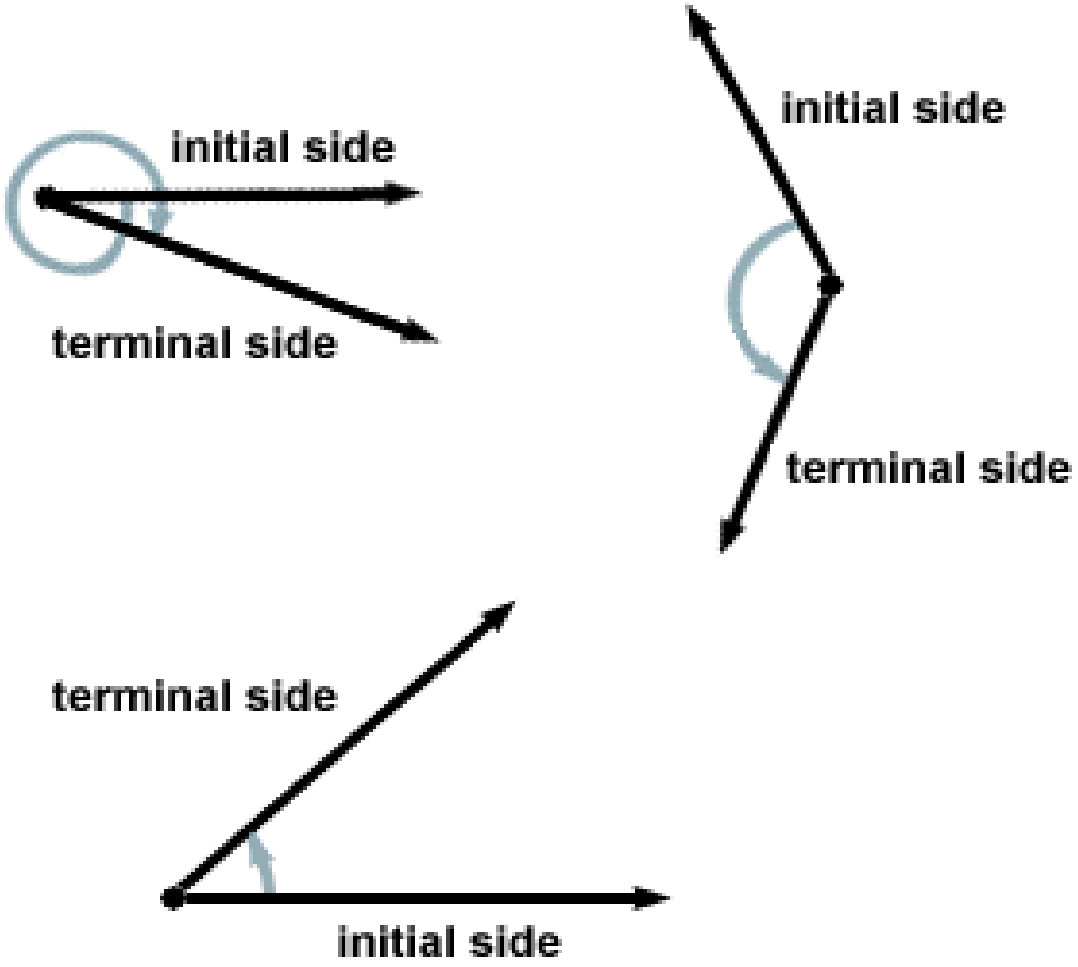
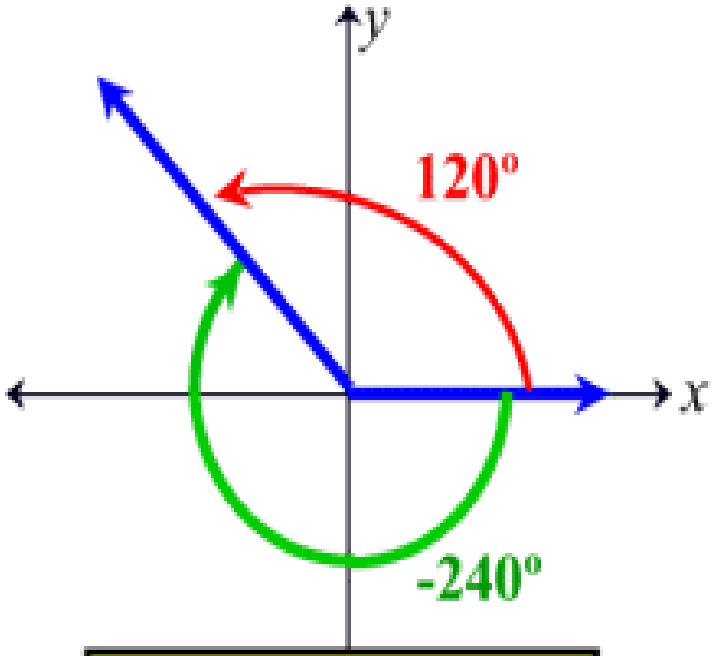


Ray?




y
terminal side
x
initial side
Standard Position

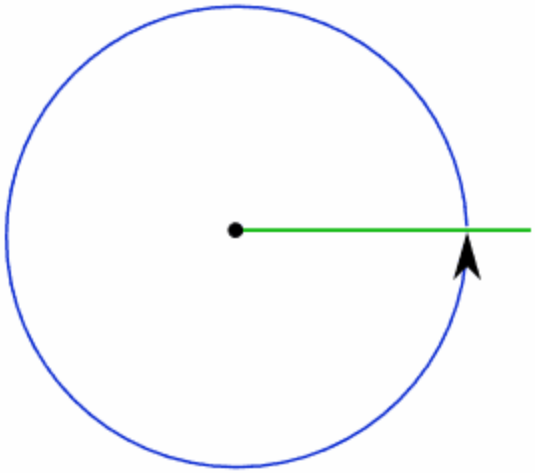

initial side
terminal side
initial side
terminal side
terminal side
initial side

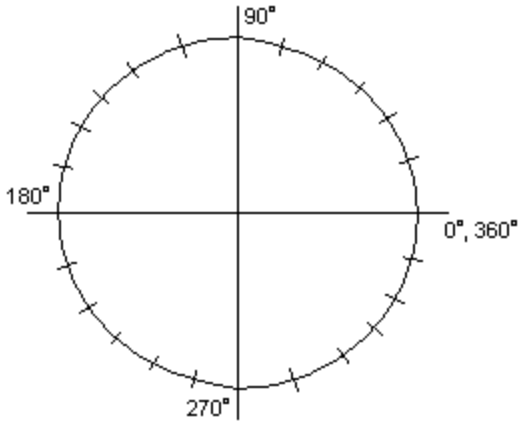


Coterminal Angles

REVOLUTION

REVOLUTION
LOVE





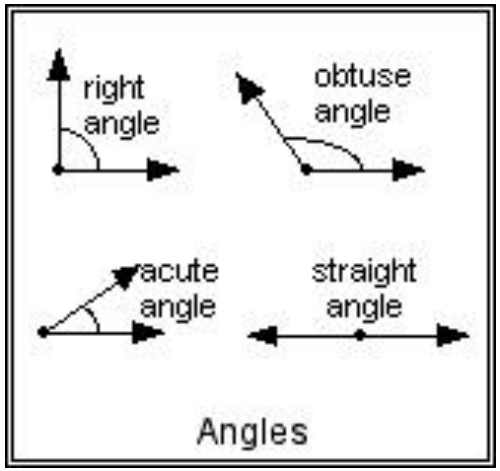
One Revolution = **360 °**

360 ° = 2π

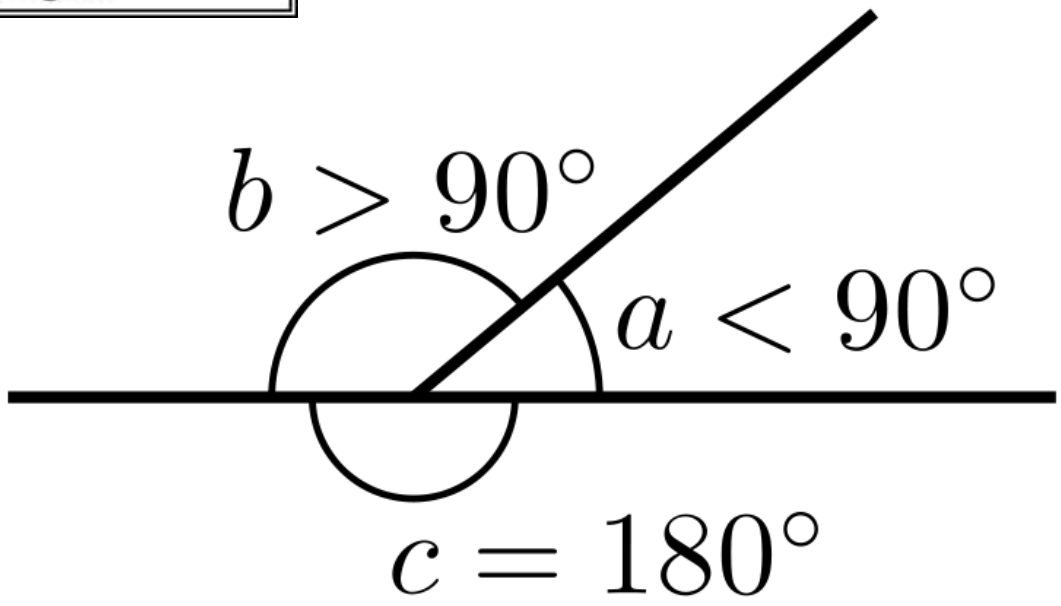
Degrees vs. Radians

****Always check the MODE on your calculator!!**

1°= 60′ = 3600″

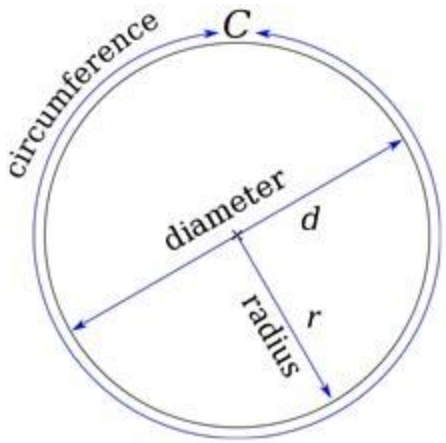


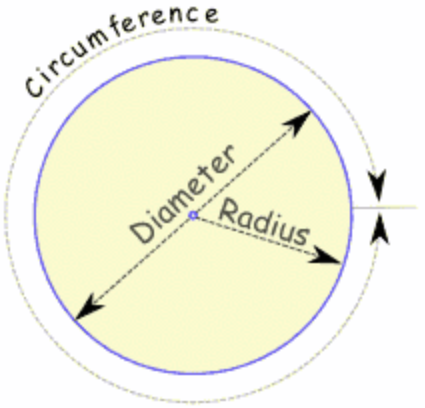
Types of Angles



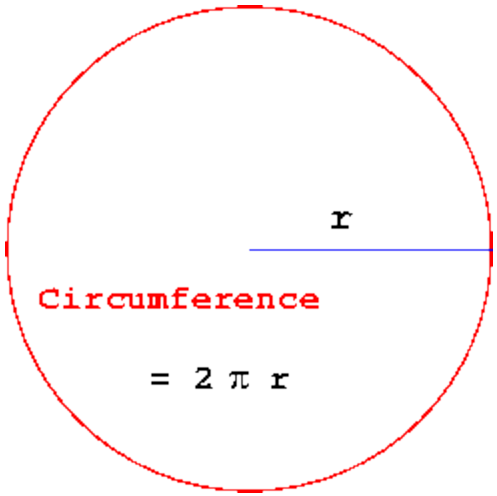
colorful
CIRCLES

PERIMETER/CIRCUMFERENCE
AREA





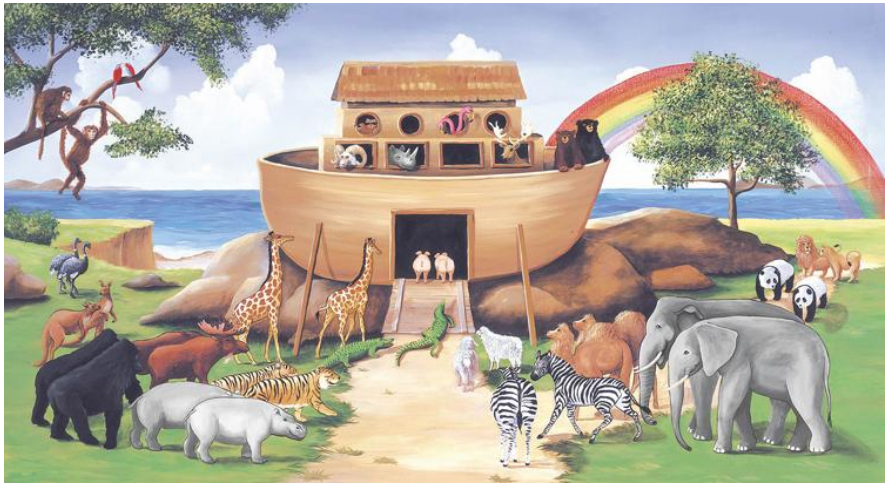
$$\frac{\text{Circumference}}{\text{Diameter}} = \pi = 3.14159\ldots$$



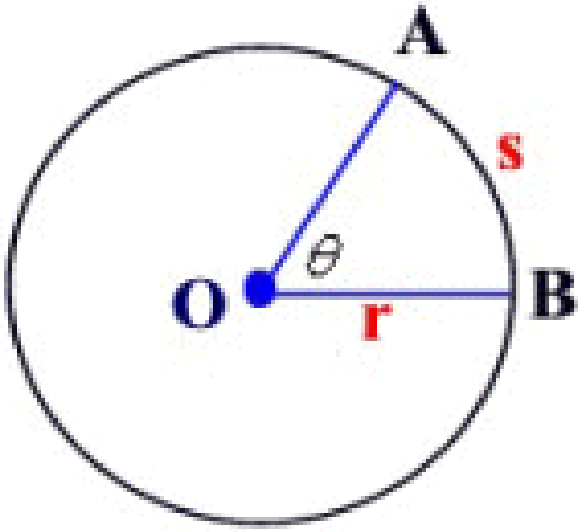
$A = \pi r^2$

$A = \pi_x r^2$

arc?

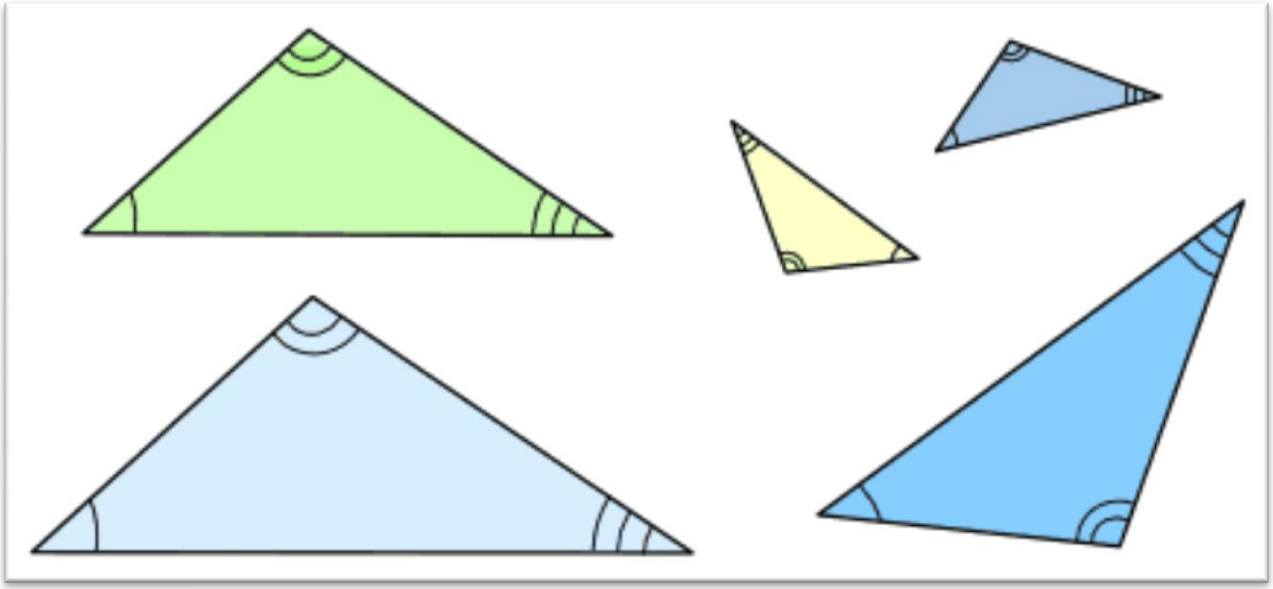


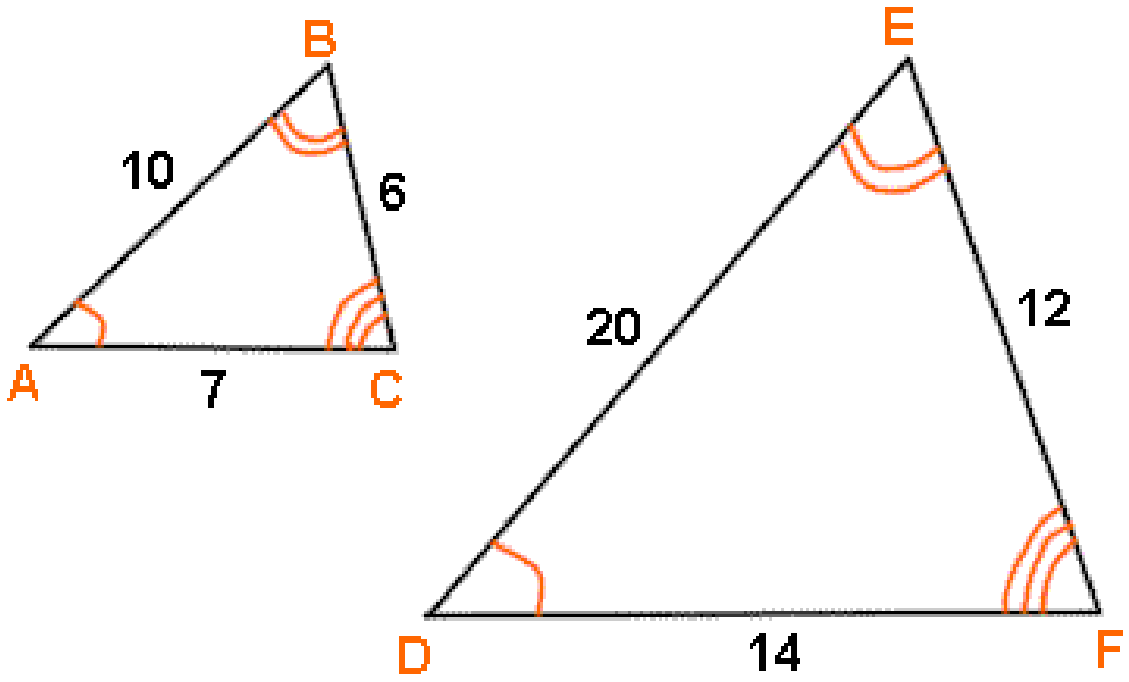
Noah's Ark

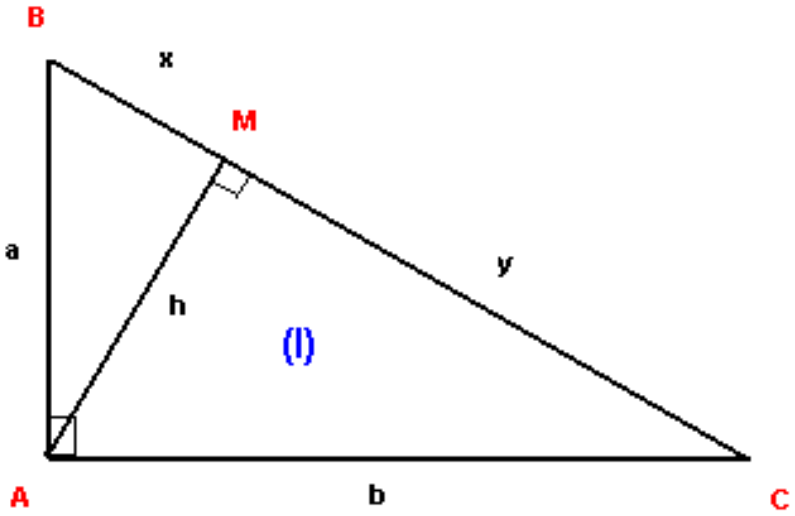


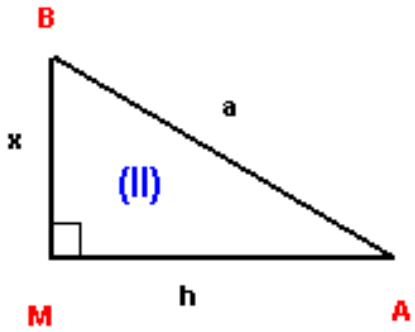
The subtended arc.....

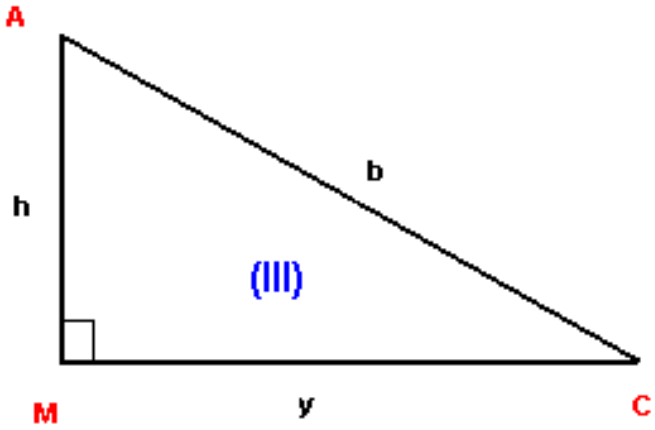
Similar Triangles



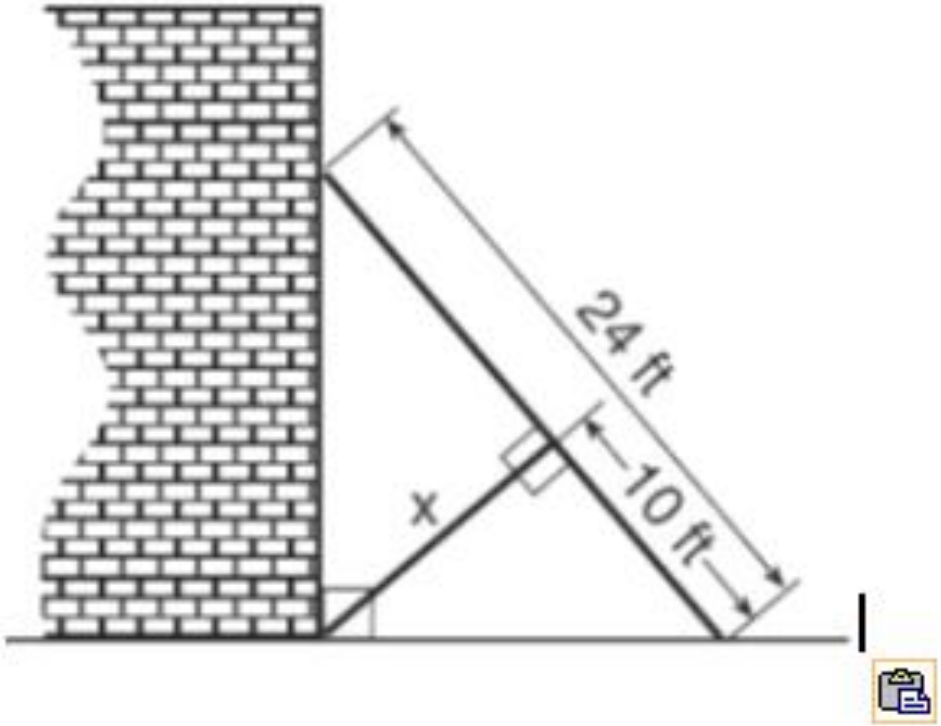

B
10
6
A
7
C
E
20
12
D
14
F





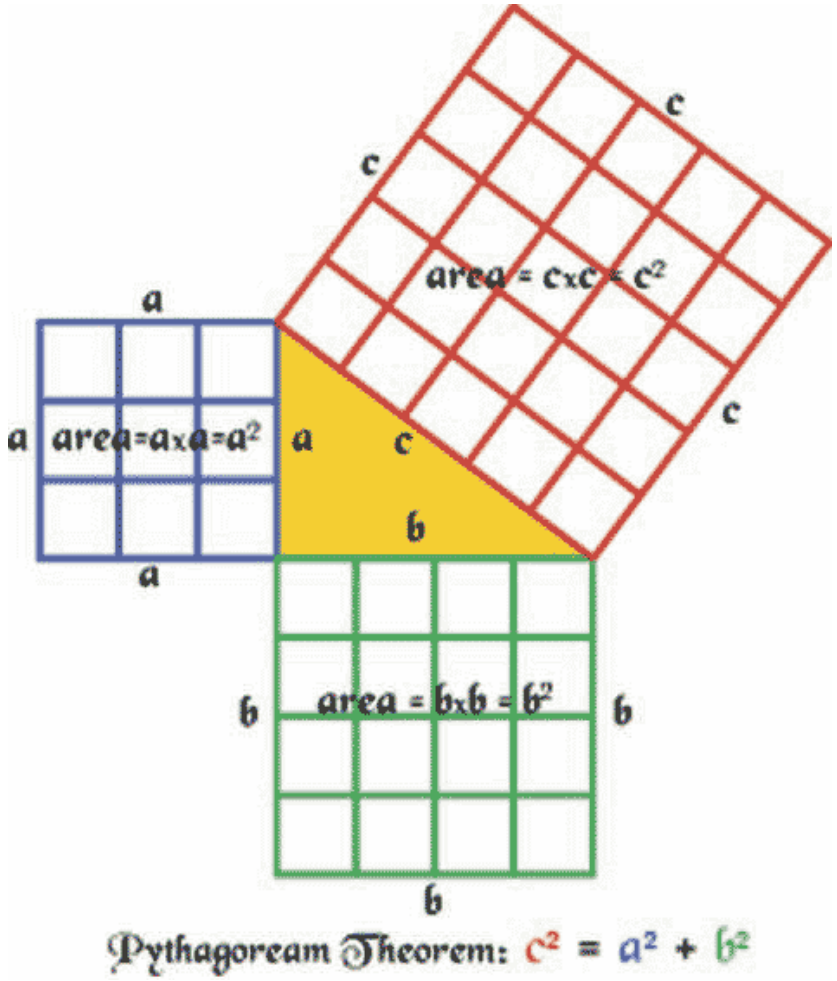


www.analyzemath.com



With a partner:
Using this picture, create a problem and solve it.

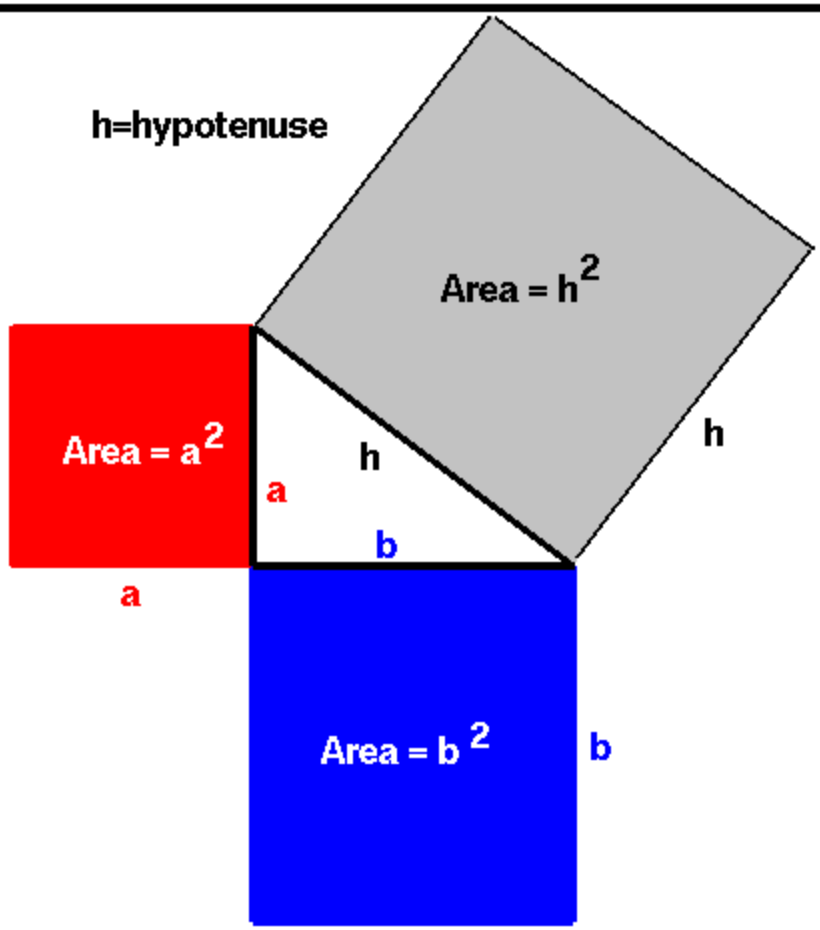
Pythagorean Theorem



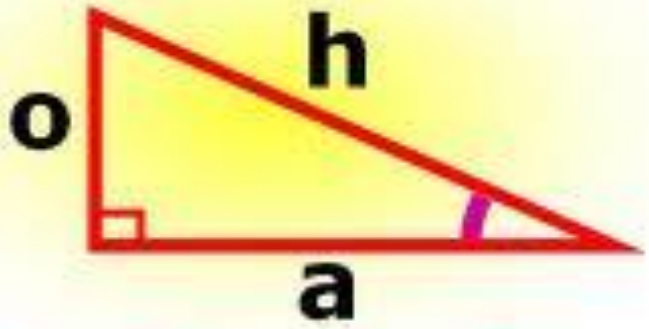
Pythagorean Theorem

For any right triangle with sides a and b and hypotenuse h, the square of the hypotenuse is equal to the sum of the squares of the other two sides.

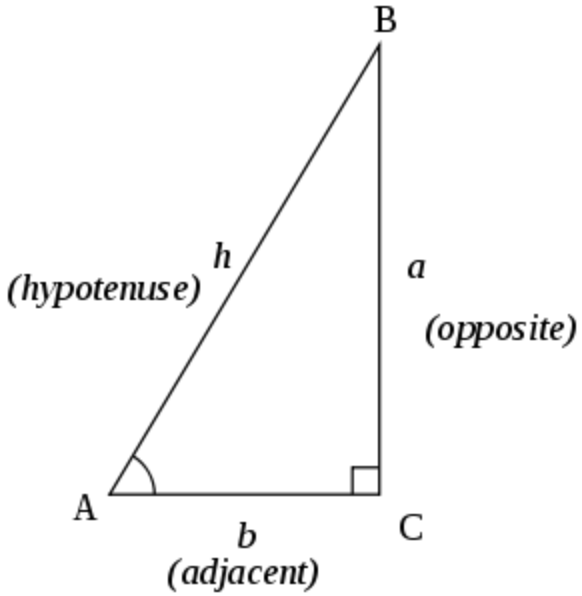
$$h^2 = a^2 + b^2$$



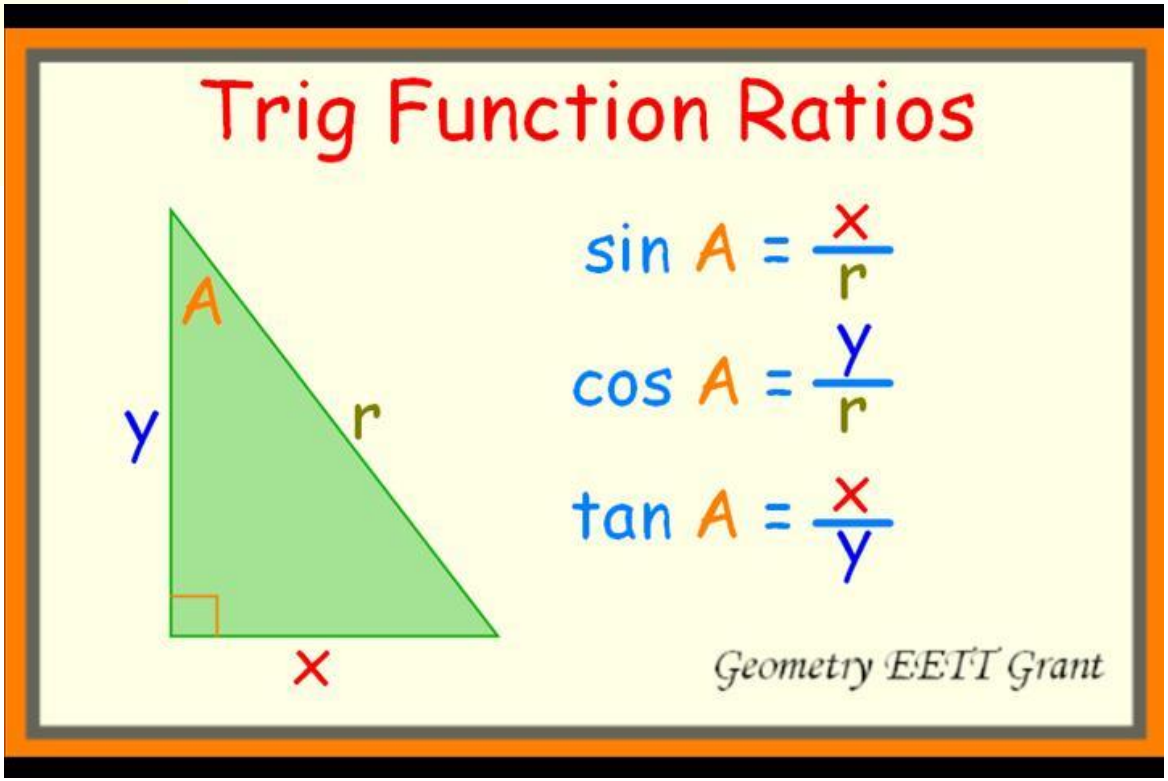
Trigonometry



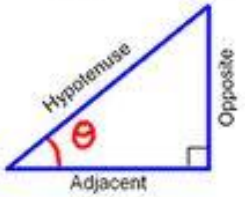
Soh Cah Toa



Introducing...
The Chief!
Sine
Opposite
Hypotenuse
Cosine
Adjacent
Hypotenuse
Tangent
Opposite
Adjacent


Trig Function Ratios
A
y
r
x
sin A = x/r
cos A = y/r
tan A = x/y
Geometry EETT Grant

Right Triangle Trigonometry



Sine =	$\frac{\text{Opposite}}{\text{Hypotenuse}}$	Cosecant =	$\frac{\text{Hypotenuse}}{\text{Opposite}}$
Cosine =	$\frac{\text{Adjacent}}{\text{Hypotenuse}}$	Secant =	$\frac{\text{Hypotenuse}}{\text{Adjacent}}$
Tangent =	$\frac{\text{Opposite}}{\text{Adjacent}}$	Cotangent =	$\frac{\text{Adjacent}}{\text{Opposite}}$

$$\sin\Theta = \frac{\text{Opposite}}{\text{Hypotenuse}} \qquad \csc\Theta = \frac{1}{\sin\Theta}$$

$$\cos\Theta = \frac{\text{Adjacent}}{\text{Hypotenuse}} \qquad \sec\Theta = \frac{1}{\cos\Theta}$$

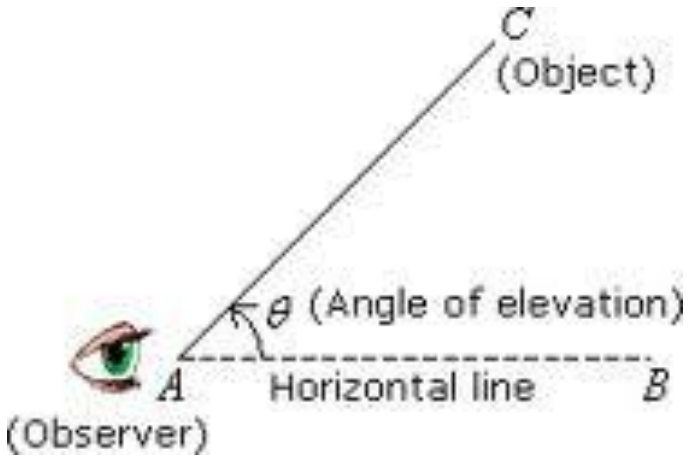
$$\tan\Theta = \frac{\text{Opposite}}{\text{Adjacent}} \qquad \cot\Theta = \frac{1}{\tan\Theta}$$

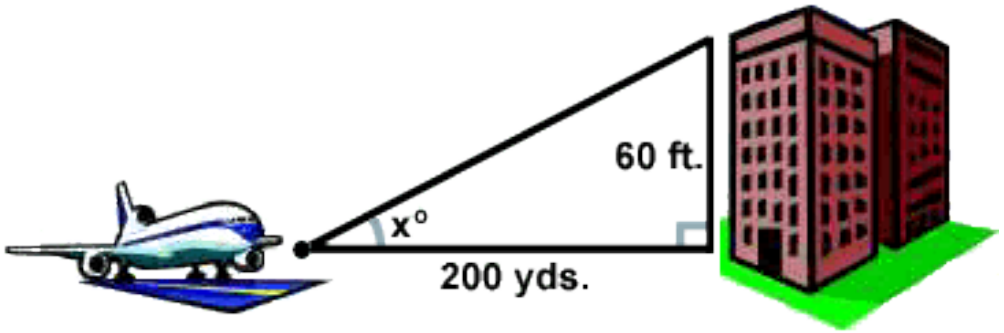
Problem 1:

An 18ft. Ladder is leaning against a house. It touches the bottom of a window that is 14 ft 6in. above the ground. What is the measure of the angle that the ladder forms with the ground?

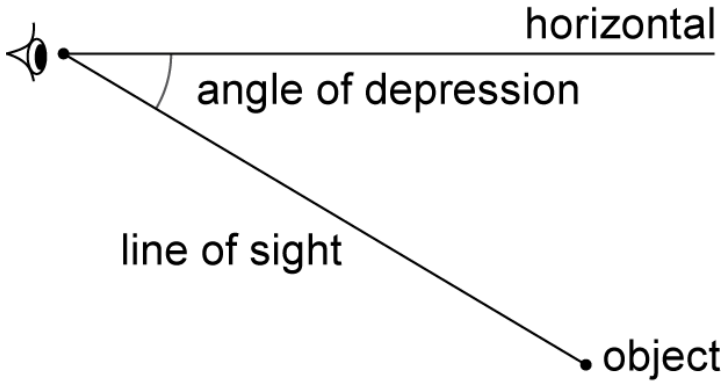
How far is the base of the ladder from the building?

Angle of Elevation

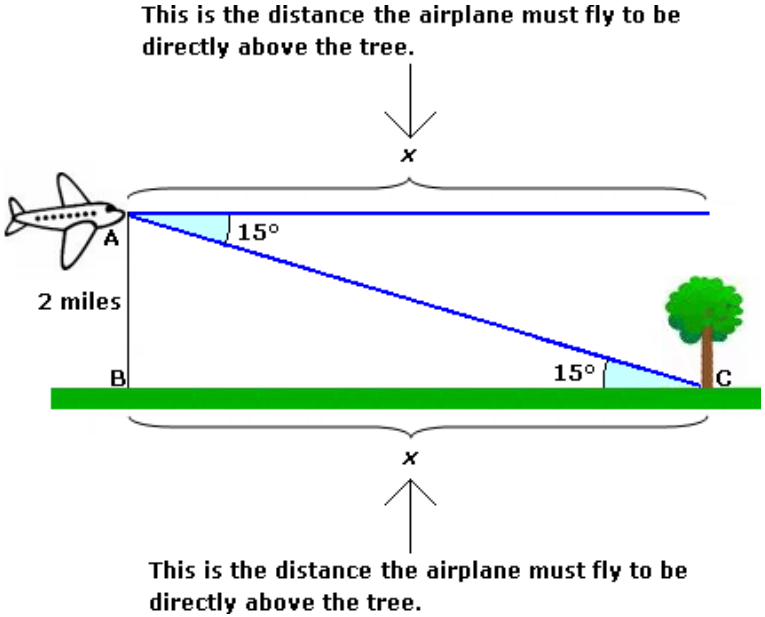




In the above picture, what needs to be the Airplane's angle of elevation when it leaves the runway to clear the building?

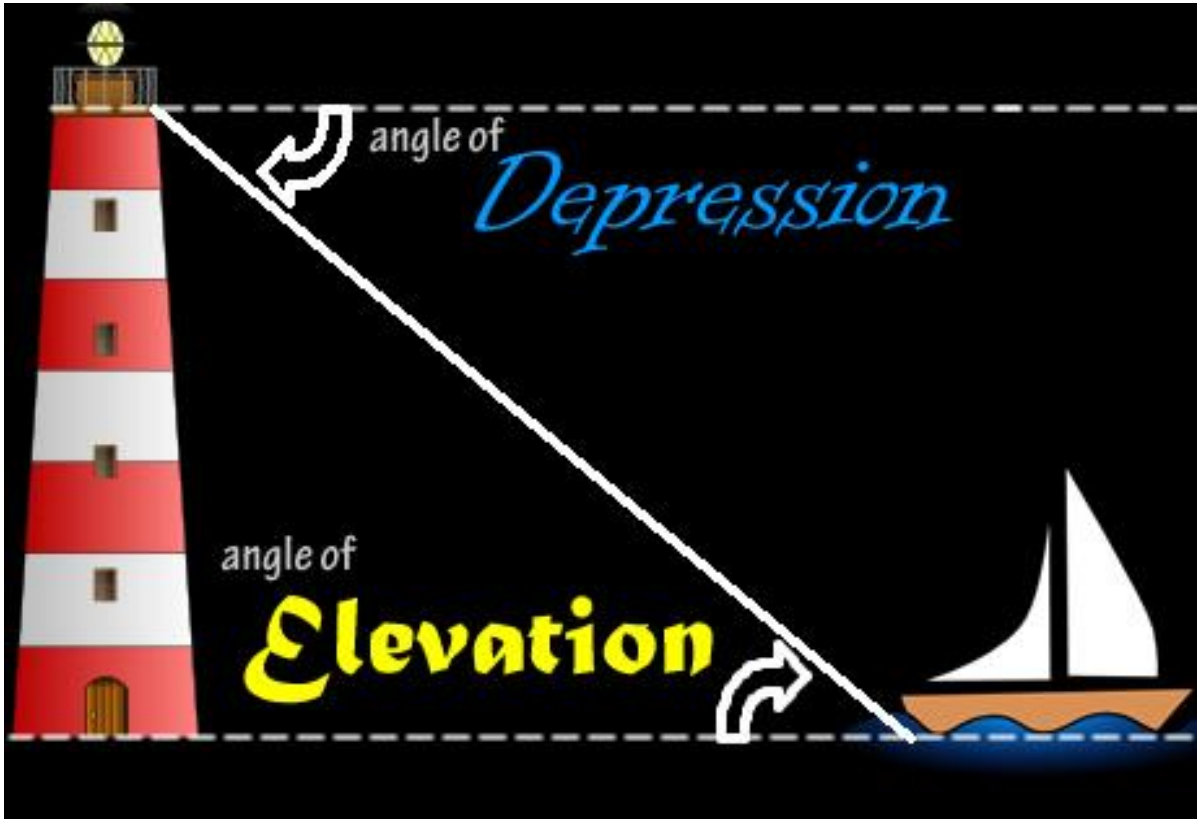


Angle of Depression

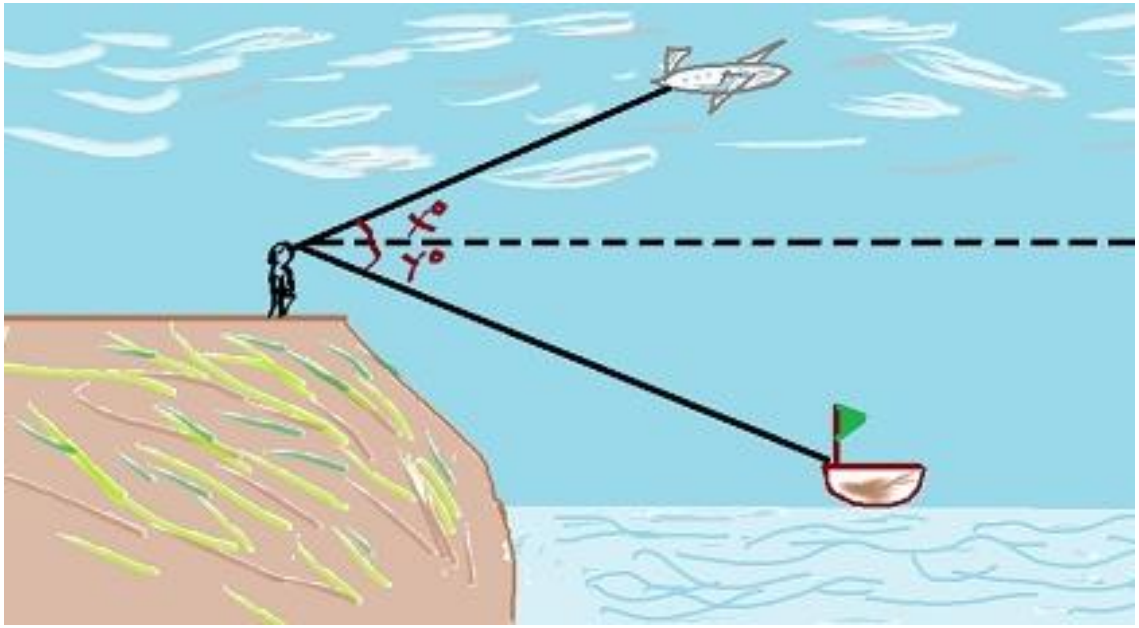


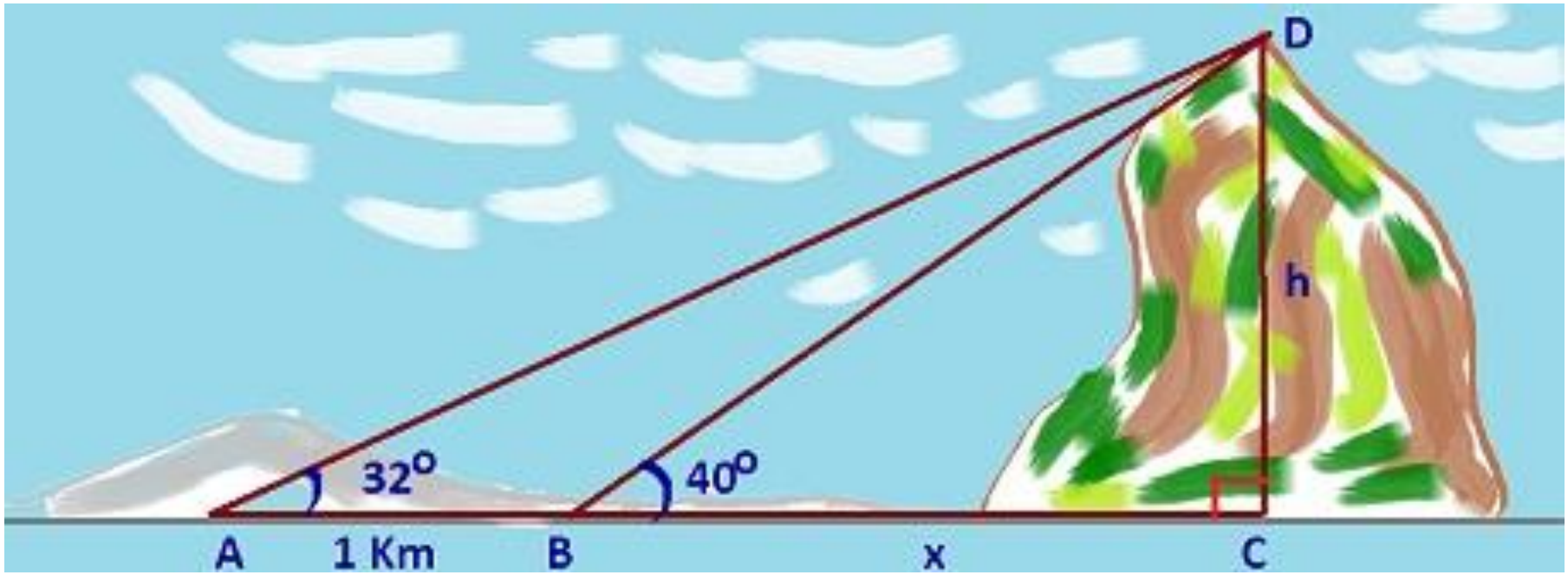
Example:

An airplane is flying 2 miles above the ground, and it continues at this altitude. How far will the plane need to fly to be directly above the tree? (Use the illustration to the left.)


angle of
Depression
angle of
Elevation

Which is it?
Angle of elevation or Angle of depression





Use the above picture to solve for h and x.

Hope you enjoyed the Chapter 1 slides.

Thanks:

www.mathisfun.com

www.mathcaptain.com