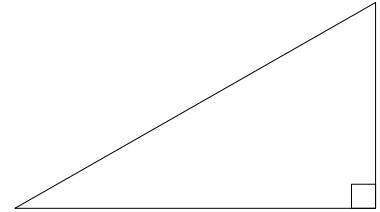
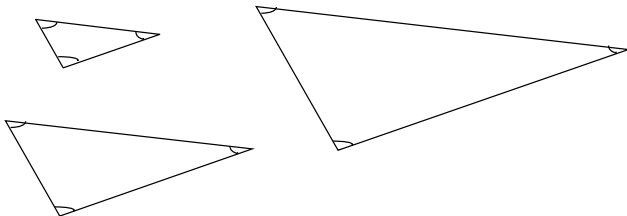


- 1) Label the triangle then list the following relationships using your labels: Pythagorean Theorem, slope the three standard trigonometric ratios (sine, cosine, tangent) and their inverses and the three co-functions (cotangent, secant, cosecant) and their inverses.



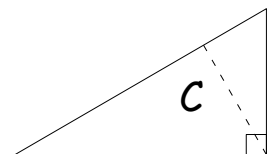
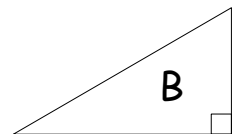
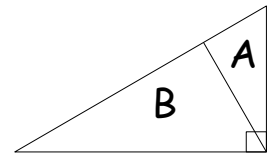
- 2) Label these similar triangles and list some proportions.



- 3) Label this mitered triangle. Then label the 3 separate triangles that make up this mitered triangle using the same labels.

Show why they are all similar

List some proportions, Pythagorean relationships and trigonometric ratios



Is the Pythagorean Identity valid? Why/why not?

4) Label the diagram with x_i, y_i, r_i, s_i and θ_i for each point. Then give the trigonometric ratios and their inverses in terms of x, y, r , and θ .

$\sin \theta =$ $\theta = \sin^{-1}$

$\cos \theta =$ $\theta = \cos^{-1}$

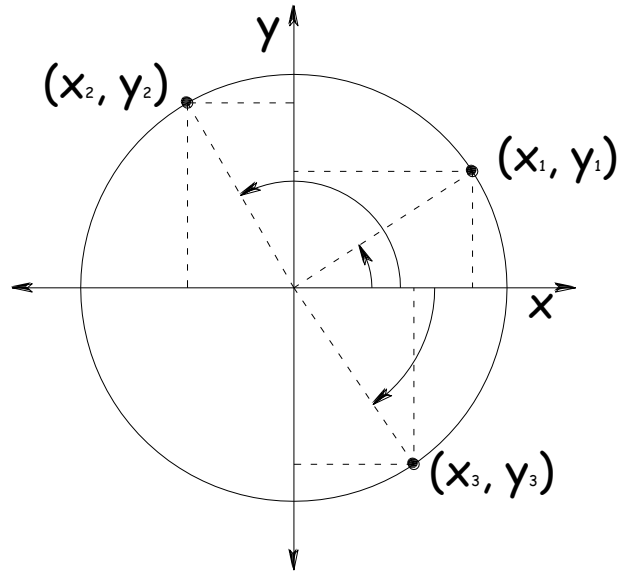
$\tan \theta =$ $\theta = \tan^{-1}$

$x =$ $y =$

$x^2 + y^2 =$

$\cos^2 \theta + \sin^2 \theta =$

slope (m) =



4) The radius of the Unit Circle is 1.

Label the angles in Radians. (include π)

Label their Coordinate Points:

$(1, 0); (\sqrt{3}/4, 1/2); (\sqrt{1/2}, \sqrt{1/2}); (1/2, \sqrt{3}/4); (0, 1)$

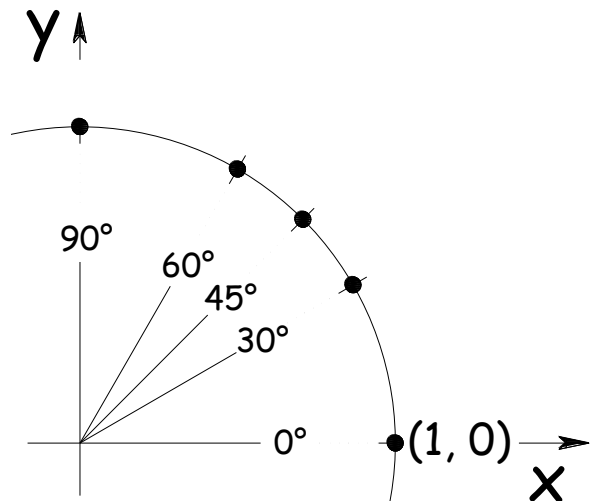
With $r = 1$ solve for:

$x =$ _____ $y =$ _____

slope (m) = _____

$x^2 + y^2 =$ _____

Trigonometric Relations in the Unit Circle



Use the above reference diagrams to compute the following WITHOUT using a calculator.

6)	$\sin 0^\circ =$	$\cos 0^\circ =$	$\tan 0^\circ =$	$\sin 90^\circ =$	$\cos 90^\circ =$	$\tan 90^\circ =$
7)	$\sin 30^\circ =$	$\cos 30^\circ =$	$\tan 30^\circ =$	$\sin 45^\circ =$	$\cos 45^\circ =$	$\tan 45^\circ =$
8)	$\sin (\pi/2) =$	$\sin (\pi/3) =$	$\sin (\pi/4) =$	$\sin (\pi/6) =$	$\cos (\pi/6) =$	$\tan (\pi/6) =$
9)	$\sin^{-1} 0 =$	$\cos^{-1} 0 =$	$\tan^{-1} 0 =$	$\sin^{-1} 1 =$	$\cos^{-1} 1 =$	$\tan^{-1} 1 =$
10)	$\sin^{-1} (1/2) =$	$\cos^{-1} \sqrt{3}/4 =$	$\tan^{-1} \sqrt{3} =$	$\tan^{-1} (1/\sqrt{3}) =$	$\sin^{-1} \sqrt{1/2} =$	$\cos^{-1} (1/2) =$