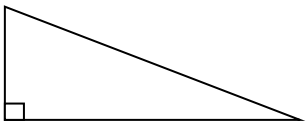
Precalculus Name: _____

Notes-(4.3) Right Triangle Trig

The Pythagorean Theorem: _____ ONLY works for _____ triangles!!!

The Nomenclature of the sides:

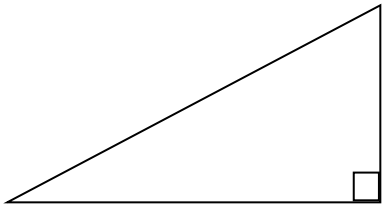


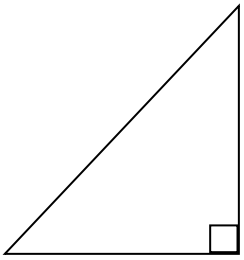
The 6 Trig functions: (pneumonic device: _____ _____ _____-_____ _____ _____-_____ _____ _____)

Sine(θ) = sinθ = _____ Cosine(θ) = cosθ = _____ Tangent(θ) = tanθ = _____

Cosecant(θ) = cscθ = _____ Secant(θ) = secθ = _____ Cotangent(θ) = cotθ = _____

The 2 Special Triangles: ___°- ___°- ___° & ___°- ___°- ___°





Trig Functions of Special Angles

θ	30°	45°	60°
sin θ			
cos θ			
tan θ			
csc θ			
sec θ			
cot θ			

1) Find the exact value of all 6 trig functions in standard position at the point $(-5, 25)$.

2) Let θ be an acute angle such that $\sin\theta = \frac{5}{6}$. Evaluate the other trig ratios of θ.

3) Find the other five trig ratios of acute angle θ given that $\cos\theta = -\frac{3}{7}$.

4) Solve ΔABC is a right triangle with hypotenuse AB 8 in, and $\angle A = 37°$. **(Draw a diagram & label it.)**

5) From a point 340 ft away from the base of the Peach Tree Center Plaza in Atlanta, GA the angle of elevation to the top of the building is 65°. What is the height of the building? Give the EXACT answer & the answer rounded to the nearest ft

NOW YOU TRY ☺

6) The angle of depression from the edge of a cliff to the base of a tree on the ground below is 4. If the base of the cliff is 117ft from the base of the tree, how high is the cliff?

7) On November 13, 2007 The New Frontier hotel and casino in Las Vegas, NV was to be demolished. To help calculate the safety zone for spectators to watch, the head demolition engineer needed to calculate the height of the New Frontier. His eyes are 6 ft 3in from the ground and his line of sight to the top of the New Frontier forms a 73□□angle with the horizontal, if he is standing 90 feet from the base of the building, how tall is the building?

THE KEY TO SOLVING ALMOST EVERY WORD PROBLEM INVOLVING TRIGONOMETRY IS TO DRAW A PICTURE!!!!!!!