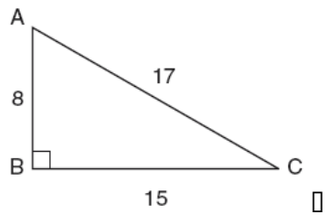
Name ***ANSWER KEY*** ***Quiz 1 of 2*** ***Algebra 2 & Trig***

You MUST show work to receive full credit.

1. In the accompanying diagram of right triangle ABC, $AB = 8$, $BC = 15$, $AC = 17$, and $m\angle ABC = 90$.



Find trigonometric ratio:

a. Tangent ∠ A ***15/8***

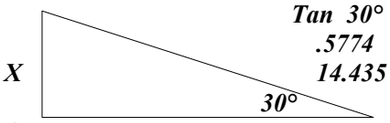
b. Cosine ∠ A ***8/17***

c Sine ∠ A ***15/17***

d. Tangent ∠ C ***8/15***

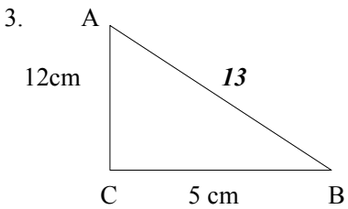
e. Cosine ∠ C ***15/17***

2. The angle of elevation from a point 25 feet from the base of a tree on level ground to the top of the tree is 30°. Find the height of the tree to the nearest foot.



Tan 30° = x/25
.5774 = x/25
14.435 = x
Height is 14 feet.

3.



Find :

a) AB to the nearest tenth of cm

$c^2 = 12^2 + 5^2$
$c^2 = 144 + 25$
$c^2 = 169 \quad c = 13$

b) ∠ B nearest degree

you may use the sin, cos or tan to find the angle value but it is best to use given information.

Tan^{-1} 12/5 = 67.3 = *67°*
Cos^{-1} 5/13 = 67.3 = *67°*
Sin^{-1} 12/13 = 67.3 = *67°*

4. Find the exact value (No Decimals)of :

a) Cos 60 ° ***1/2*** d) Tan 90 ° ***Undefined***

b) Tan 45 ° ***1*** e) Cosine 360 ° ***1***

c) Sine 30 ° ***1/2***

5. Determine the quadrant in which an angle of the given measure lies:

a) 97 ° **II** d) -800 ° ***IV***

b) -305 ° ***I*** e) 750 ° ***I***

c) - 45 ° ***IV***

Which of the 5 are quadrantal angles?

COS 360 AND TAN 90 OR ANY ANGLE WHERE THE INITIAL AND TERMINAL ANGLES ARE ON AN AXIS.

6 Name the quadrant in which an angle of the measure θ could lie when :

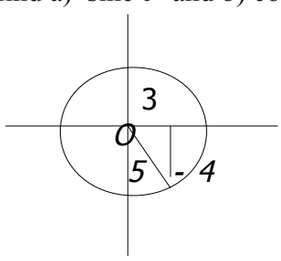
a. tan θ > 0 and sin θ < 0 ***III***

b. cos θ > 0 and tan θ > 0 ***I***

c. sin θ > 0 and cos θ > 0 ***I***

ºd. cos θ < 0 and tan θ > 0 ***III***

7. Given the coordinates of (3, - 4) on circle O find a) sine θ and b) cosine θ. c) tan θ



a) sine θ = - 4/5

b) cosine θ = 3/5

c) tan θ = - 4/3

8. What are the reference angles (positive acute angles) of the following :

a) 210° ***30 º*** b) 410° ***50 º*** e) - 130° ***50 º*** f) -200° ***20 º***

c) 120° ***60 º*** d) 345° ***15 º***