Math 3301 Foundations of Geometry
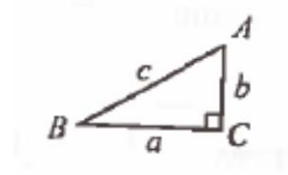**Unit V Practice Test**   **Name** _____

Refer to the diagram of right triangle ΔABC. For #1-2, the lengths of two sides are given. Find sin A, cos A, sin B, and cos B. Leave the answers in fraction form.
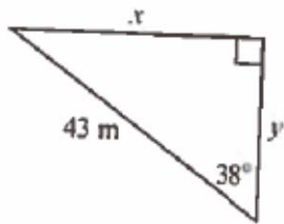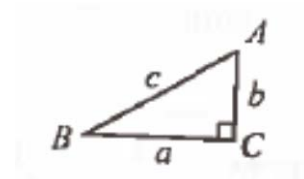
1.   a = 16, b = 12

2.   a = 15, c = 20

3.   If <B is an acute angle and cos B = $^1/_3$, find sin B.

4.   Find cos 65.8˚ to four decimal places.

5.   Find x and y to one decimal place.

43 m

38°
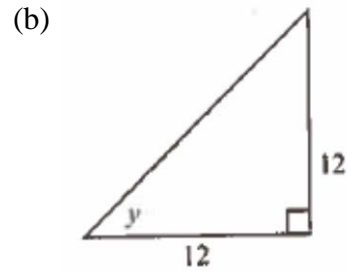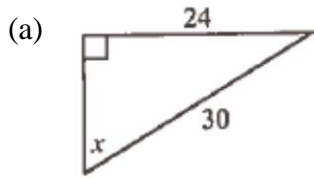
6.   If <A is an acute angle in a right triangle and tan A = $^{20}/_{15}$, find sin A and cos A. Leave the answers in fraction form.

7.   Find m<A to the nearest tenth of a degree if sin A = 0.2196.

8. Use the sine, cosine or tangent ratio to find the measure of the indicated angle to the nearest degree.

(a)

(b)

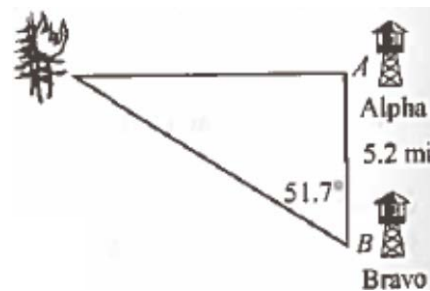9. Solve each right triangle. Remember that m<C = 90°. Round the answers similarly as the given measures.

(a)   b = 6 and m<A = 30°

(b)   b = 12 and c = 20

(c)   a = 6.2 and c = 9.6

(d)   c = 12 and m<B = 42°

10. A forest fire is sighted due west of outpost Alpha. From outpost Bravo, 5.2 miles due south of Alpha, the angle of the fire is 51.7° west of due north. How far is the fire from outpost Bravo? _____ From outpost Alpha? _____

11.   A tree casts a shadow of 28.0 meters. The angle of elevation of the sun from the tip of the shadow is 64.3°. What is the height of the tree?

12.   Jon is in Florida watching the launch of a rocket. He is at the visitor's site, 3 miles from the launch pad. The announcer at the visitor's site says the rocket is about 2.3 miles high. At that moment, what is the angle of elevation from Jon to the rocket?

13.   If the measure of angle B is 35°, find the width of the river (distance from A to C). Round to the nearest foot.
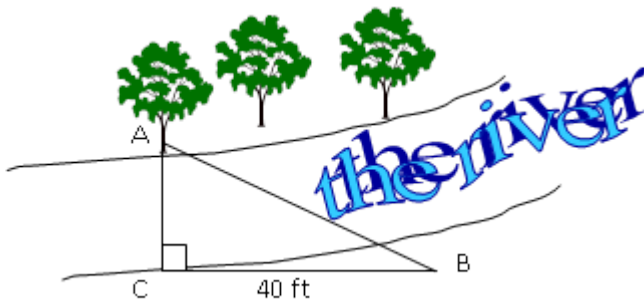
14.   Redwood trees are among the tallest of all trees. From a point 115 ft from the base of a redwood tree, the angle of elevation to the top of the tree is 64°. Find the height of the tree to the nearest foot.