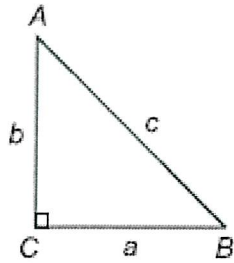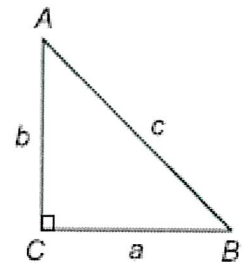**Day #63 and 64 Homework**

Solve each of the following right triangles by finding all missing sides and angles. Show your work. Use a trigonometric ratio to find each missing piece of information.
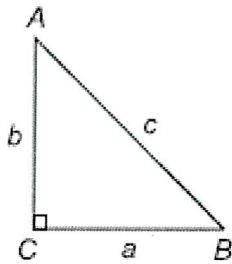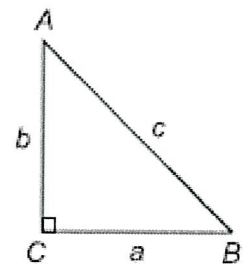
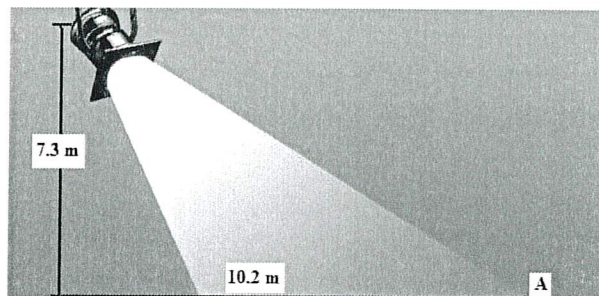|	
1. $A = 55°$ and $c = 16$	2. $a = 9$ and $B = 49°$
3. $B = 56°$ and $c = 63.1$	4. $c = 12$ and $b = 5$

5. A spotlight is mounted 7.3 meters high on a pole to illuminate the center of a parking area at point A. If A is 10.2 meters from the base of the pole, at what angle of depression, θ, should the spotlight be aimed?

7.3 m

10.2 m

A

6. A 30 foot ladder leaning against the side of a house makes a 70° angle with the ground.

   a. How far up the side of the house does the ladder reach?
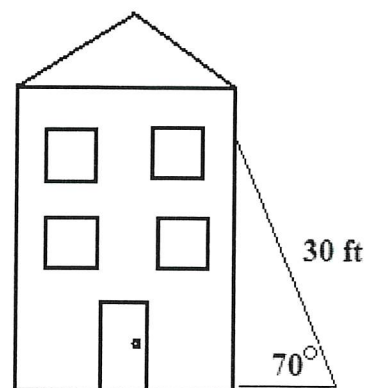
   b. What is the horizontal distance between the bottom of the ladder and the house?

30 ft

70°

Find the value of x in each of the following equations. Show your work.

7. $\sec x = \frac{15}{11}$	8. $\cot x = \frac{2}{5}$	9. $\csc x = \frac{4}{\sqrt{5}}$

Find the area of each oblique triangle described below. Draw and label the triangle and show your work.

10. $b = 3$ $c = 8$ $m\angle A = 120°$	11. $a = 10$ $b = 20$ $m\angle C = 70°$

Solve each of the oblique triangles described below. You may need to use a combination of the Law of Sines and Law of Cosines. Draw and label each triangle and show all of your work.

12. $c = 25$ $m\angle A = 110°$ $m\angle B = 20°$	13. $a = 10$ $b = 20$ $c = 15$