Solve the following oblique triangles using law of sines or cosines.  Find all missing angle measures and side measures to the nearest tenth.

| 1. a= 27, b= 35, $\angle C = 71°$ | | 2.  a = 5, b = 4, c = 7 | |
|---|---|---|---|
| A = _____     a = 27          A = _____     a = 27 | | A = _____     a = 5          A = _____     a = 5 | |
| B = _____     b = 35          B = _____     b = 35 | | B = _____     b = 4          B = _____     b = 4 | |
| C = 71         c = _____         C = 71         c = _____ | | C = _____     c = 7          C = _____     c = 7 | |
| | | | |
| 3.  $\angle B = 130°$, b = 5.2, c = 10.1 | | 4.  $\angle A = 73°$, b= 12.8, a= 12.5 | |
| A = _____     a = _____          A = _____     a =_____ | | A = 73         a = 12.5          A = 73         a = 12.5 | |
| B = 130       b = 5.2            B = 130       b = 5.2 | | B = _____     b = 12.8          B = _____     b = 12.8 | |
| C = _____     c = 10.1           C = _____     c = 10.1 | | C = _____     c = _____          C = _____     c = _____ | |
| | | | |
| 5.  $\angle A = 150°$, b= 10, a= 64 | | 6.  $\angle A = 27.3°$, b= 32.9, a= 27.4 | |
| A = 150       a = 64            A = 150       a = 64 | | A = 27.3°  a = 27.4            A = 27.3°  a = 27.4 | |
| B = _____     b = 10            B = _____     b = 10 | | B = _____     b = 32.9          B = _____     b = 32.9 | |
| C = _____     c = _____          C = _____     c = _____ | | C = _____     c = _____          C = _____     c = _____ | |
| | | | |

Find the area of the triangle having the indicated sides and angles.  Round to the nearest tenth.

7. b= 22, a= 32,  $\angle C = 128°$                                                                            _____

8. b= 18,  c =22 ,  $\angle A = 128°$                                                                           _____

9.  a = 150 feet, b = 210 feet, c = 190 feet                                                        _____

Draw a picture and solve.

10.  Juan and Rebekah are standing at the seashore 10 miles apart.  The coastline is a straight line between them.  Both can see the same ship in the water.  The angle between the coastline and the line between the ship and Juan is 35 degrees.  The angle between the coastline and the line between the ship and Romelia is 45 degrees.  How far is the ship from Juan?

11.  Fred, Barney and Wilma are camping in their tents.  If the distance between Fred and Barney is 153 feet, the distance between Fred and Wilma is 201 feet, and the distance between Barney and Wilma is 175 feet, find each angle of the triangle formed.

12.  Two rangers, one at Station A and one at Station B, observe a fire in the forest.  The angle at Station A formed by the lines of sight to Station B and to the fire is  $62°$ .  The angle at Station B formed by the lines of sight to Station A and to the fire is  $58°$ .  The stations are 8 km apart.
    a.  How far from Station B is the fire?