

Solve the triangle, if possible. Give all possible solutions.

1)  $C = 107^\circ$   
 $c = 47$  km  
 $a = 57$  km

2)  $B = 40.1^\circ$   
 $b = 24.1$  in.  
 $c = 19.4$  in.

Solve the triangle, if possible. Give all possible solutions.

3)  $B = 15.3^\circ$   
 $b = 15.99$   
 $a = 30.3$

Solve the triangle, if possible. Give all possible solutions.

4)  $A = 79^\circ$   
 $a = 32$  yd  
 $b = 65$  yd

Solve the triangle, if possible. Give all possible solutions.

5)  $C = 35^\circ 30'$   
 $a = 18.76$   
 $c = 16.15$

Solve the triangle, if possible. Give all possible solutions.

6)  $C = 110^\circ$   
 $c = 44$  km  
 $a = 54$  km

**Determine ONLY the number of triangles ABC possible with the given parts.**

7)  $a = 39, b = 79, A = 70^\circ$

8)  $a = 35, b = 54, A = 24^\circ$

9)  $a = 24, b = 20, A = 46^\circ$

10)  $b = 47, c = 57, B = 103^\circ$

11)  $a = 15, b = 27, B = 95^\circ$

12)  $b = 24, c = 29, B = 46^\circ$

**Solve the problem.**

- 13) A ship sailing parallel to shore sights a lighthouse at an angle of  $10^\circ$  from its direction of travel. After traveling 3 miles farther, the angle is  $21^\circ$ . At that time, how far is the ship from the lighthouse?

## Answer Key

Testname: HOMEWORK7-2

- 1) no such triangle
- 2)  $A = 108.7^\circ$ ,  $C = 31.2^\circ$ ,  $a = 35.4$  in.
- 3)  $A = 30^\circ$ ,  $C = 134.7^\circ$ ,  $c = 43.07$ ;  
 $A' = 150^\circ$ ,  $C' = 14.7^\circ$ ,  $c' = 15.38$
- 4) no such triangle
- 5)  $A = 42^\circ 25'$ ,  $B = 102^\circ 05'$ ,  $b = 27.19$ ;  
 $A' = 137^\circ 35'$ ,  $B' = 6^\circ 55'$ ,  $b' = 3.35$
- 6) no such triangle
- 7) 0
- 8) 2
- 9) 1
- 10) 0
- 11) 1
- 12) 2
- 13) 2.73 mi