Name _____ **Period** _____ **Date** _____

In Problems 1–4, find the missing measurements

1. $a =$ __80__
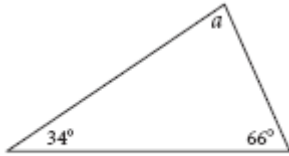
34 + 66 + a = 180
Solve for a

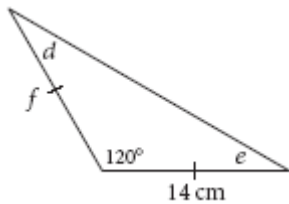**2.** $b =$ __50__
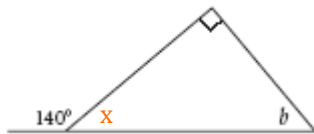
2 methods
1) 180-140 = x
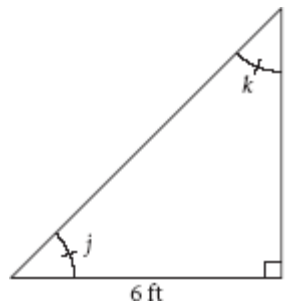   x = 40
   90 + 40 + b = 180
   Solve for b
OR
2) Use Exterior Angle Conjecture:
Remote interior angles are the right
angle and b, so 90 + b = 140. Solve
for b

3. $d =$ __30__
         $e =$ __30__
         $f =$ __14 cm__ — Units matter!

The triangle is isosceles, therefore f = 14cm
and d = e.
Since d and e are the same, we can write
120 + 2d = 180, or 120+ 2e = 180 and then
solve.

4. $j =$ __45__
         $k =$ __45__
         $l =$ __6 ft__

The triangle is isosceles, therefore l = 6 ft
and j = k.
Since j and k are the same, we can write
90 + 2j = 180, or 90+ 2k = 180 and then
solve.

In Problems 5–7, tell whether it is possible to draw a triangle with the given side lengths.

5.   3 in., 4 in., 5 in.   Check 3+4 > 5, 4+5>3, and 3+5>4: YES

6.   1 cm, 7 cm, 8 cm   Check 1+7 > 8 (doesn't work) : NO

7.   3 ft, 5 ft, 9 ft   Check 5+3 > 9 (doesn't work): NO
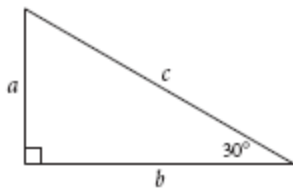
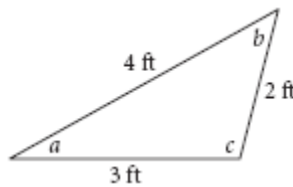In Problems 8–10, arrange the letters in order from greatest value to least value.

8.

a, b, c

9.

c, b, a

10.

c, b, a

11. What are the coordinates of the centroid of △DEF?