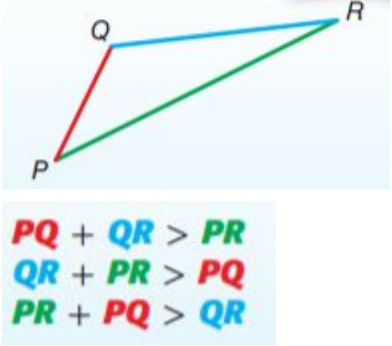|		
Triangle Inequality Theorem	The sum of the lengths of any two sides of a triangle must be greater than the length of the third side.	$PQ + QR > PR$ $QR + PR > PQ$ $PR + PQ > QR$

1. Is it possible to form a triangle with the given side lengths? If not, explain why not:
   a. 8 in., 15 in., 17in.   c. 15 yd, 16 yd, 30 yd

   b. 6 m, 8 m, 14 m   d. 2 ft, 8 ft, 11 ft

*When the lengths of two sides of a triangle are known, the third side can be any length in a range of values. You can use the Triangle Inequality THeorem to determine the range of possible lengths for the third side.
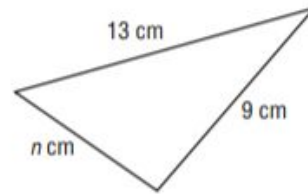
2. Find the range for the measure of the third side of a triangle given the measure of two sides.
   a. 4 ft, 8 ft   b. 2.7 cm, 4.2 cm   c. $\frac{1}{2}$ km, $3\frac{1}{4}$ km

3. If the measure of two sides of a triangle are 3 feet and 7 feet, which is the least possible whole number measure for the third side?

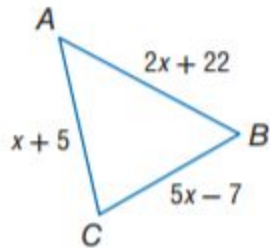   a) 3 ft   b) 4ft   c) 5 ft   d) 10 ft

4. Which of the following could *not* be the value of *n*?

    F 7   H 10

    G 13   J 22

5. Determine the value of x:

a.

b.