**Directions: Solve for x.  Then find each interior angle measure.**
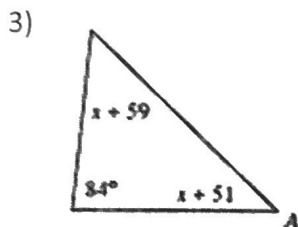
1)

55°   x + 74

54°

$X = -3$

$55°, 54°, 71°$

2)

x + 51
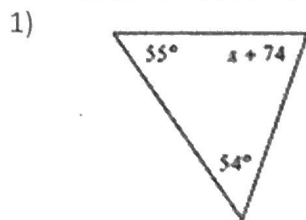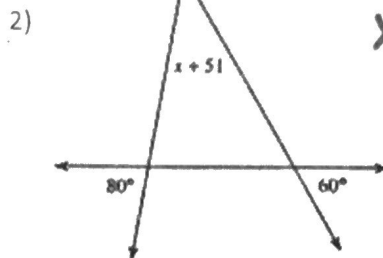
80°                    60°

$X = -11$

$80°, 60°, 40°$

**Directions: Find the measure of angle A.**

3)

x + 59

84°     x + 51

A

$m\angle A = 37°$

4)

A     3x − 6     130°

8x + 4
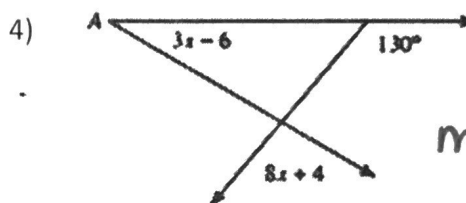
$m\angle A = 30°$

**Directions: The variable expressions represent the angle measures of a triangle.  Find the measure of each angle.  Then classify the triangle by its angles.**

5) $m\angle C = x° = 33°$
    $m\angle A = 2x° = 66°$
    $m\angle T = (2x + 15)° = 81°$

    **acute**

6) $m\angle W = x° \; 20°$
    $m\angle H = 7x° \; 140°$
    $m\angle Y = x° \; 20°$

    **obtuse**

7) $m\angle D = (x − 15)° \; 75°$
    $m\angle U = (2x − 165)° \; 15°$
    $m\angle H = 90° \; 90°$

    **right**

**Directions: Determine if the three numbers can make the sides of a triangle.**

8) 7, 5, 4          9) 3, 6, 2          10) 5, 2, 4          11) 8, 2, 8

yes                 No                  yes                 yes

**Directions: Two sides of a triangle have the following measures. Find the range of possible measures for the third side.**

12) 9, 5          13) 5, 8          14) 6, 10          15) 6, 9

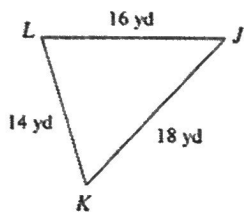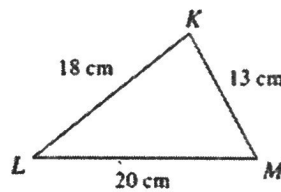$4 < x < 14$      $3 < x < 13$      $4 < x < 16$       $3 < x < 15$

**Directions: Write the angles of the triangles in order from least to greatest.**

16)



$\angle J, \angle K, \angle L$

17)



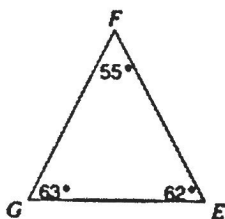$\angle L, \angle m, \angle K$

18) In $\triangle MOP$,

MO = 15
OP = 25
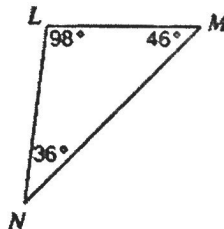MP = 13

$\angle O, \angle P, \angle m$

**Directions: Write the sides of the triangles in order from least to greatest.**

19)



$\overline{GE}, \overline{GF}, \overline{FE}$

20)



$\overline{Lm}, \overline{LN}, \overline{mN}$

21) In $\triangle TOP$,

$m\angle T = 50^\circ$
$m\angle O = 48^\circ$
$m\angle P = 82^\circ$

$\overline{PT}, \overline{PO}, \overline{OT}$