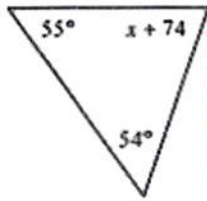


Directions: Solve for  $x$ . Then find each interior angle measure.

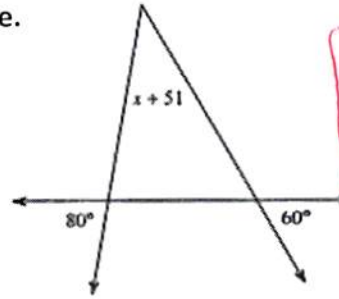
1)



$$x = -3$$

$$55^\circ, 54^\circ, 71^\circ$$

2)

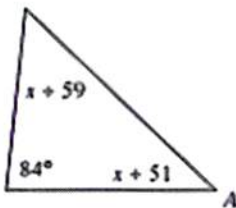


$$x = -11$$

$$80^\circ, 60^\circ, 40^\circ$$

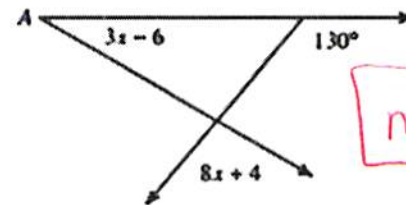
Directions: Find the measure of angle A.

3)



$$m\angle A = 37^\circ$$

4)



$$m\angle A = 30^\circ$$

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

acute

6)  $m\angle W = x^\circ = 20^\circ$   
 $m\angle H = 7x^\circ = 140^\circ$   
 $m\angle Y = x^\circ = 20^\circ$

obtuse

7)  $m\angle D = (x - 15)^\circ = 75^\circ$   
 $m\angle U = (2x - 165)^\circ = 15^\circ$   
 $m\angle H = 90^\circ = 90^\circ$

right

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

8) 7, 5, 4

yes

9) 3, 6, 2

no

10) 5, 2, 4

yes

11) 8, 2, 8

yes

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

12) 9, 5

$4 < x < 14$

13) 5, 8

$3 < x < 13$

14) 6, 10

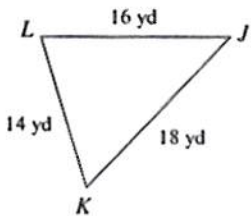
$4 < x < 16$

15) 6, 9

$3 < x < 15$

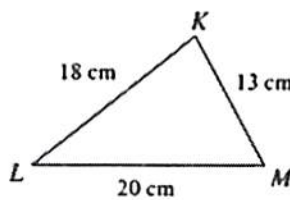
Directions: Write the angles of the triangles in order from least to greatest.

16)



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

17)



$\angle L, \angle M, \angle K$

18) In  $\triangle MOP$ ,

MO = 15

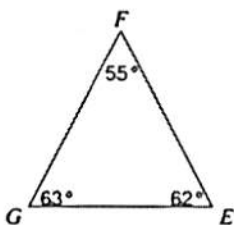
OP = 25

MP = 13

$\angle O, \angle P, \angle M$

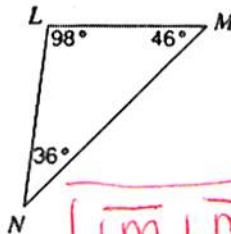
Directions: Write the sides of the triangles in order from least to greatest.

19)



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

20)



$\overline{LM}, \overline{LN}, \overline{MN}$

21) In  $\triangle TOP$ ,

$m\angle T = 50^\circ$

$m\angle O = 48^\circ$

$m\angle P = 82^\circ$

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