

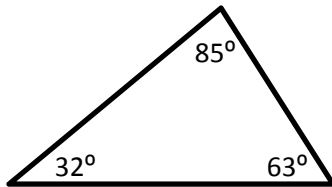
Name \_\_\_\_\_

Date \_\_\_\_\_

Geometry: Classifying Triangles

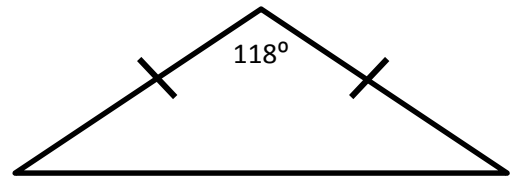
Classify each triangle by side and angle (Use: Scalene, Isosceles, Equilateral, Obtuse, Acute, Right)

1)



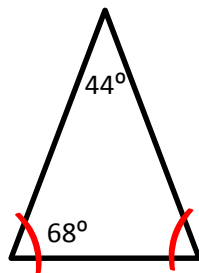
Scalene-Acute

2)



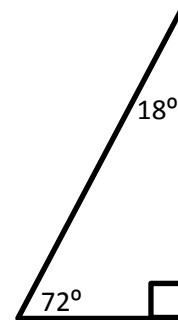
Isosceles-Obtuse

3)



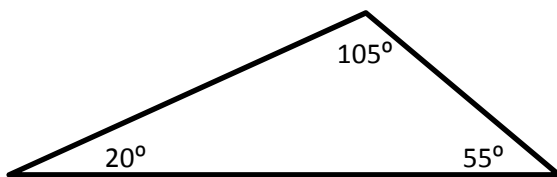
Isosceles-Acute

4)



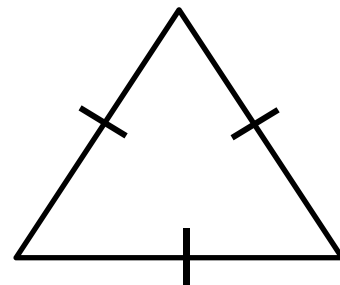
Scalene-Right

5)



Scalene-Obtuse

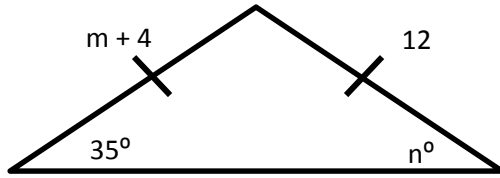
6)



Equilateral

Solve each triangle for the missing information.

7)

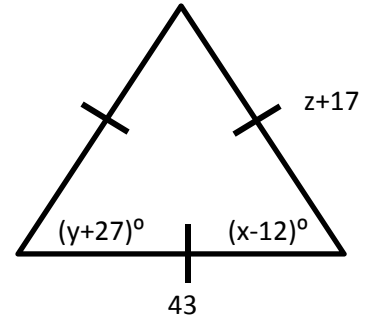


$m = \underline{8}$

$n = \underline{35}$

This is an isosceles triangle. Therefore the base angles are congruent. So  $n = 35$ . Also, the two sides are congruent so,  $m + 4 = 12$   
 $-4 \quad -4$   
 $m = 8$

8)



$y = \underline{33} \quad x = \underline{72}$

$z = \underline{26}$

This is an equilateral triangle. Therefore all of the angles are  $60^\circ$ . So,  $y + 27 = 60$  and  $x - 12 = 60$ .

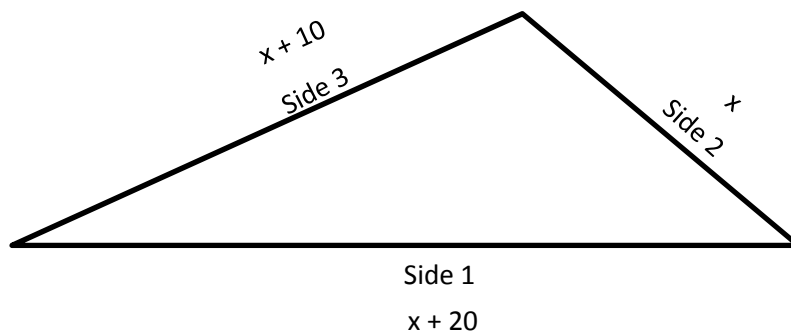
$y + 27 = 60$	$x - 12 = 60$
$-27 \quad -27$	$+12 \quad +12$
$y = 33$	$x = 72$

Also, the three sides are congruent so,  $z + 17 = 43$

$-17 \quad -17$   
 $z = 26$

### Challenge Problem

Given the following triangle with a perimeter of 90 ft, find the length of each side.



The perimeter is the distance around the triangle. Therefore the perimeter is the sum of the lengths of the sides.

Side 1    Side 2    Side 3  
 $(x + 20) + x + (x + 10) = 90$   
 $x + 20 + x + x + 10 = 90$   
 $3x + 30 = 90$   
 $-30 \quad -30$   
 $\underline{3x = 60}$   
 $3 \quad 3$   
 $x = 20$

Side 1 40    Side 2 20    Side 3 30  
 $x + 20$      $x + 10$   
 $20 + 20 = 40$      $20 + 10 = 30$