

Name: _____
Date: _____
Class: _____

Geometry
Unit 3
HW 3-1

1) In $\triangle ABC$, $m\angle A = 5x + 2$, $m\angle B = 6x + 1$, $m\angle C = 4x - 3$ find all 3 angle measurements.

2) Based on your answers from #1 list the sides in order from longest to shortest and why you know.

3) In isosceles $\triangle DEF$, $\angle F$ is the vertex angle, $m\angle F = 10x + 40$, and $m\angle D = 6x + 4$. Find $m\angle E$.

4) The perimeter of $\triangle QRS = 72$ feet. $q = 3x + 9$, $r = x + 4$, and $s = 4x + 3$. List the angles in order from smallest to largest and why you know.

5) Which could be the lengths of the sides of a \triangle ? Why? What type?

a) 3, 3, 7

b) 4, 5, 6

c) 5, 12, 13

d) 8, 20, 28

e) 7, 7, 7

6) If 2 sides of a \triangle are 5 and 12 what is the range of possible values for the 3rd side?

7) $\triangle DEF$ is isosceles with F as the vertex angle. $m\angle D = 6x + 4$ and $m\angle E = 8x - 18$. Find $m\angle F$.

8) $\triangle DEF$ is isosceles with F as the vertex angle. If $DF = 3x + 2$ and $EF = 2x + 18$. Find a range of possible values for side \overline{DE} .

9) In $\triangle XAF$, the legs are XA and AF. If $XA = x^2 + x - 2$, $XF = x^2 + 10$, and $AF = 3x + 6$, find the perimeter of the triangle.

10) $\triangle QWP$ has the following angle measurements: $m\angle Q = 10x - 8$, $m\angle P = 3x + 3$, and $m\angle W = x^2 + x + 9$. What type of triangle is this and which is the shortest side?