Geometry Honors   Mathematician: _____
Unit 5: Parallel and Perpendicular Lines   Period:_____
5.4 Parallel Lines and Triangles

LEVEL: EMERGING

Directions: Find the measure of angle C in the diagram.

1)

B
39°

A 25°

C

$m\angle C = $ _____

2) C

A
109°
R

$m\angle C = $ _____

3)

B
42°

16°
A   C

$m\angle C = $ _____
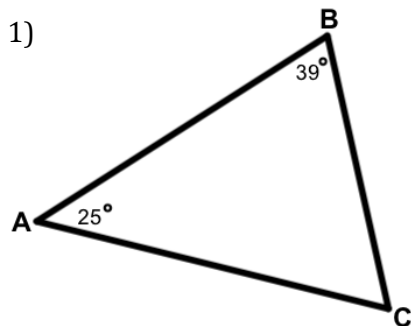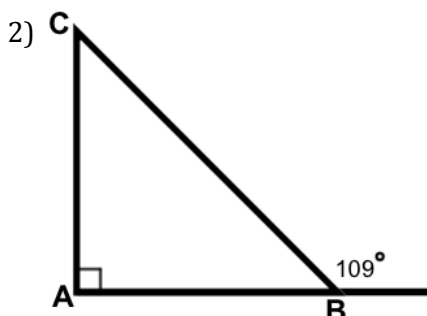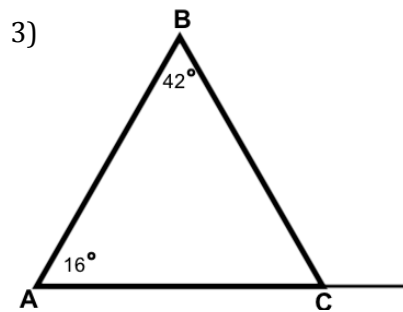
LEVEL: PROFICIENT

Directions: Find the value of x. Then find the measure of the indicated angle.

4)

H
4x

80°
G
6x
T

$x = $ _____ $m\angle HTG = $ _____

5)

S
$(8x -1)°$
T
$(3x + 4)°$
$(3x + 9)°$
R

$x = $ _____ $m\angle T = $ _____

6)

K
$(9x +16)°$

M
$(6x +15)°$
P
D
$(19x +3)°$

$x = $ _____ $m\angle PMD = $ _____

7)

M
$(8x + 2)°$

$(9x + 3)°$

W   Z

$x = $ _____ $m\angle WMZ = $ _____
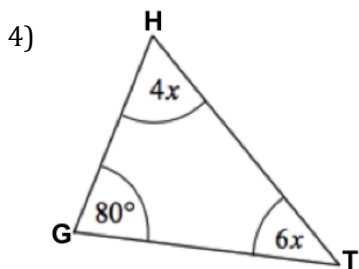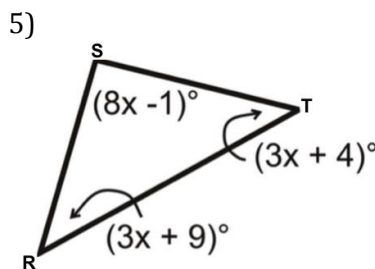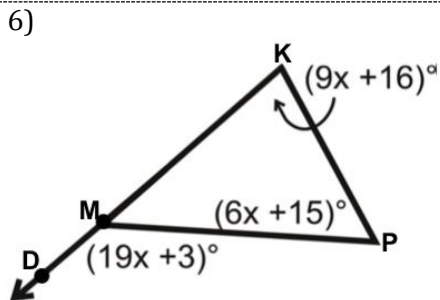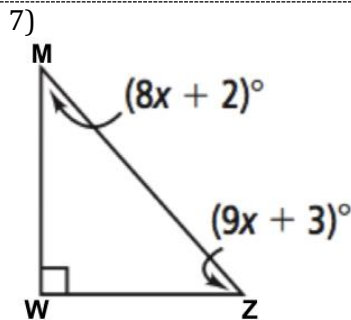
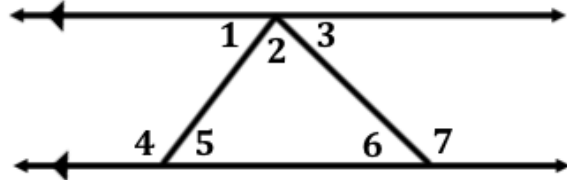8) What do all of the interior angles of a triangle add up to?

9) Describe the Exterior Angle Theorem in your own words.

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10) $m\angle 3 = 112°$. Using the figure, select all of the correct responses. Select all that apply.
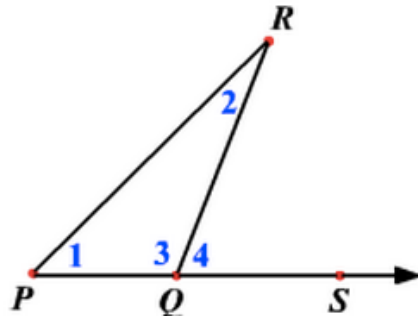
(A) $m\angle 1 + m\angle 2 > 180°$
(B) $m\angle 1 + m\angle 2 < 180°$
(C) $m\angle 3 + m\angle 4 = 180°$
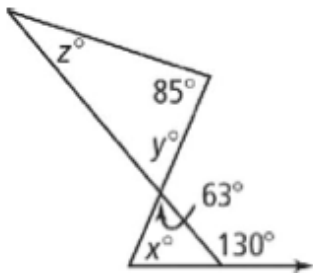(D) $m\angle 1 + m\angle 2 = m\angle 4$
(E) $m\angle 1 + m\angle 3 = m\angle 2$

11) $m\angle 4 = 105°$. Using the figure, select all of the correct responses. Select all that apply.

(A) $m\angle 7 = m\angle 2 + m\angle 5$
(B) $m\angle 5 + m\angle 6 < 180°$
(C) $m\angle 1 = m\angle 5$
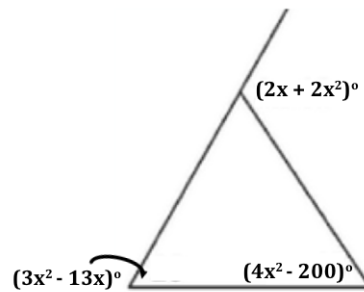(D) $m\angle 1 + m\angle 4 > 180°$
(E) $m\angle 1 + m\angle 4 < 180°$

Directions: Find the value of the missing variables.

12)

$x =$ _____ $y =$ _____ $z =$ _____

13)

$(2x + 2x^2)°$

$(3x^2 - 13x)°$ $(4x^2 - 200)°$

$x =$ _____

Directions: Find the value of x that makes lines $\overline{AB}$ and $\overline{ZY}$ parallel.

14)

$(2x)°$
$(x - 2)°$
$(4x - 14)°$ $y°$

$x =$ _____ $y =$ _____

15)

$x°$
A $x°$ B
$(5y + 17)°$ $(4x - 130)°$

$x =$ _____ $y =$ _____