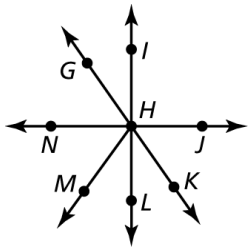
Name_____ Date_____

Unit 6 Chapter 12 & 3 Review

12.1 - Adjacent and Vertical Angles

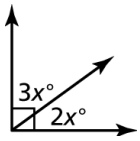
Name two pairs of adjacent angles and two pairs of vertical angles in the figure.

1)

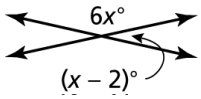


Tell whether the angles are *adjacent* or *vertical*. Then find the value of *x*.

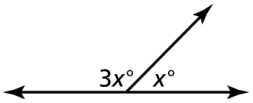
2)



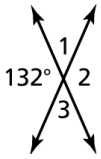
3)



4)



5) What are the measures of the other three angles formed by



12.2 - Complementary and Supplementary Angles

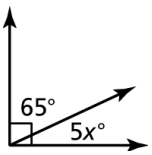
For #6 & 7, tell whether the statement is *always*, *sometimes*, or *never* true. Explain.

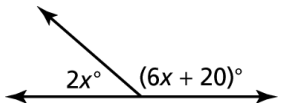
6) If *x* and *y* are supplementary angles, then *y* is acute. _____

7) If *x* and *y* are complementary angles, then *x* is obtuse. _____

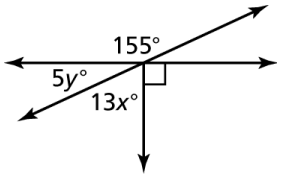
8) Angle *x* and angle *y* are complementary. Angle *x* is supplementary to a 128° angle. What are the measures of angle *x* and angle *y*?

Tell whether the angles are *complementary* or *supplementary*. Then find the value of *x*.

9) 

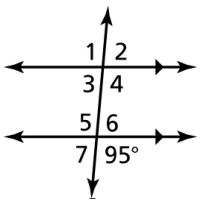
10) 

11) Find the values of *x* and *y*. Show all algebraic work.



3.1 – Parallel Lines and Transversals

12) Use the figure to find the measure of the angle. **Explain your reasoning**.



a) $\angle 3$

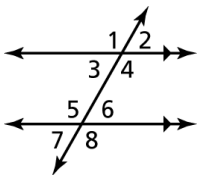
b) $\angle 5$

c) $\angle 6$

d) $\angle 2$

13) If the measure of $\angle 3 = 46°$, then the measure of $\angle 6$ =_____.

Why?



14) If the measure of $\angle 5 = 102°$, then the measure of $\angle 8$ =_____.

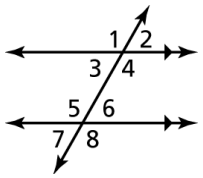
Why?

15) If the measure of $\angle 4 = 98°$, then the measure of $\angle 7$ =_____.

Why?

16) If the measure of $\angle 6 = 59°$, then the measure of $\angle 4 =$_____.

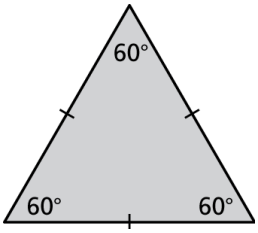
Why?



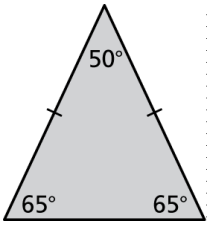
12.3 - Triangles

Classify the triangle.

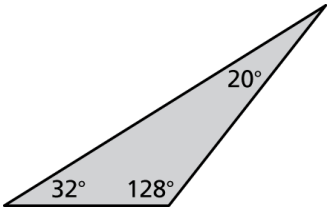
17)



18)

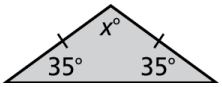


19)

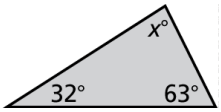


Find the value of *x*. Then classify the triangle. Show all work.

20)

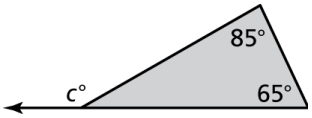


21)

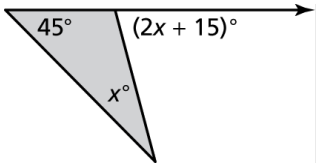


Find the measure of the exterior angle. Show all work.

22)



23)



Determine whether you can construct *many*, *one*, or *no* triangle(s) with the given description. Explain your reasoning.

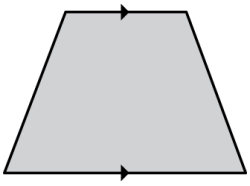
24) a triangle with a 2-inch side, a 4-inch side, and a 5-inch side _____

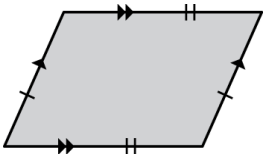
25) a scalene triangle with two 7-centimeter sides _____

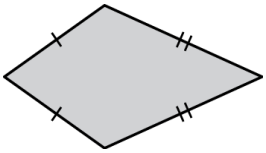
26) a triangle with one angle measure of $100°$ and one 6-inch side _____

12.4 - Quadrilateral

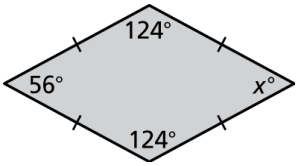
Classify the quadrilateral.

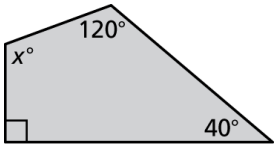
27) 

28) 

29) 

Find the value of *x*. Show all work.

30) 

31) 

Fill the blanks using *always*, *sometimes*, or *never* that would make the following statements true.

32 A square is _____ a rhombus.

33) A parallelogram is _____ a rectangle.

34) A kite is _____ a square.

35) A trapezoid is _____ a square.

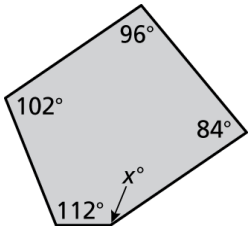
3.3 – Angles of Polygons

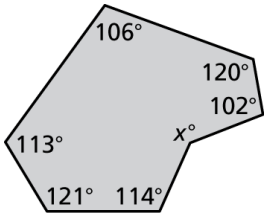
36) What is the formula to figure out the sum of all the interior angles of a polygon?

37) What does ***n-2*** mean in the formula?

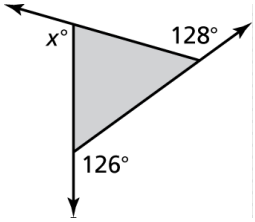
38) What do is the sum of all the exterior angles in any polygon?

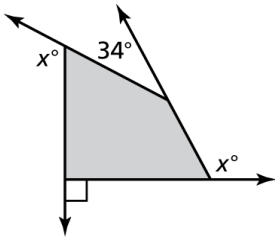
Find the measures of the interior angles of the polygon.

39) 

40) 

Find the measures of the interior angles of the polygon.

41) 

42) 

12.5 - Scale Drawings

Find the missing dimension. Use the scale factor 2 : 5.

43) Model: 10 km

Actual: _____

44) Model: 5 in.

Actual: _____

45) Model: _____

Actual: 24 ft

46) Model: _____

Actual: 32.5 m

47) A scale drawing of a rose is 3 inches long. The actual rose is 1.5 feet long.

a) What is the scale of the drawing? _____

b) What is the scale factor of the drawing? _____