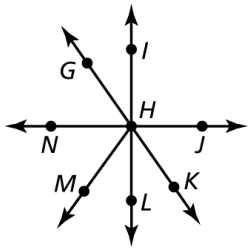
Name_____ Date_____

Unit 6 Chapter 12 - Study Guide

12.1 - Adjacent and Vertical Angles

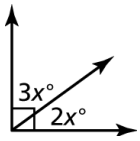
Name two pairs of adjacent angles and two pairs of vertical angles in the figure.

1)

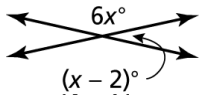


Tell whether the angles are *adjacent* or *vertical*. Then find the value of *x*.

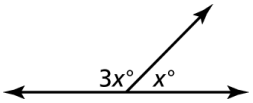
2)



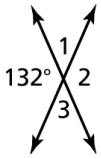
3)



4)



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



12.2 - Complementary and Supplementary Angles

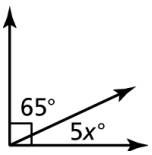
For #6 & 7, tell whether the statement is *always*, *sometimes*, or *never* true. Explain.

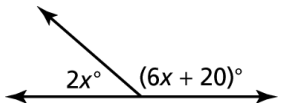
6) If *x* and *y* are supplementary angles, then *y* is acute. _____

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

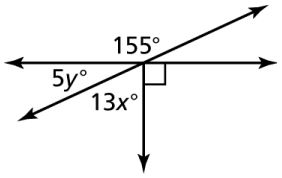
8) Angle *x* and angle *y* are complementary. Angle *x* is supplementary to a 128° angle. What are the measures of angle *x* and angle *y*?

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

9) 

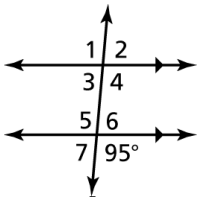
10) 

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) $\angle 3$

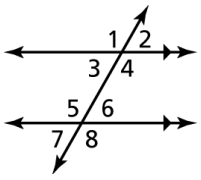
b) $\angle 5$

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 $\angle 8 =$_____.

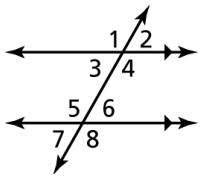
Why?

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 $\angle 4 =$_____.

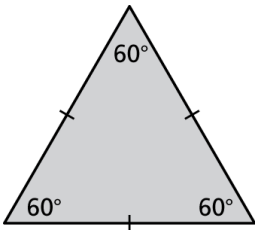
Why?



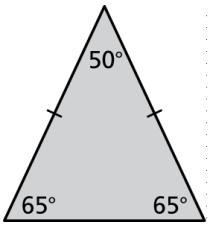
12.3 - Triangles

Classify the triangle.

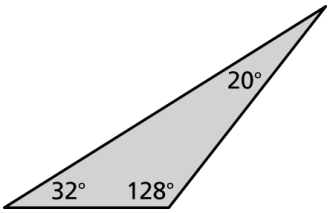
17)



18)

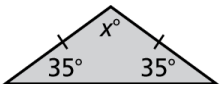


19)

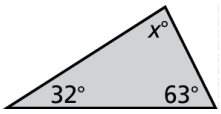


Find the value of *x*. Then classify the triangle. Show all work.

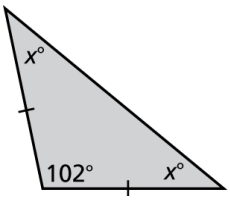
20)



21)



22)



23) The measures of two supplementary angles have a ratio of 5 : 4. What is the measure of the larger angle?

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

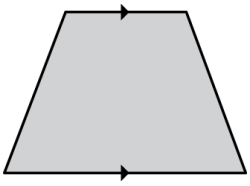
24) a triangle with a 2-inch side, a 4-inch side, and a 5-inch side _____

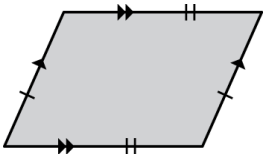
25) a scalene triangle with two 7-centimeter sides _____

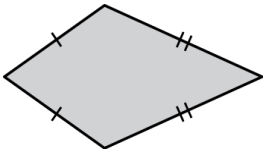
26) a triangle with one angle measure of $100°$ and one 6-inch side _____

12.4 - Quadrilateral

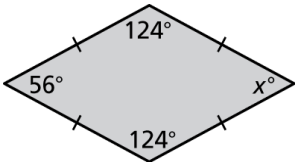
Classify the quadrilateral.

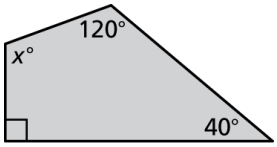
27) 

28) 

29) 

Find the value of *x*.

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.

12.5 - Scale Drawings

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

36) Model: 10 km

Actual: _____

37) Model: 5 in.

Actual: _____

38) Model: _____

Actual: 24 ft

39) Model: _____

Actual: 32.5 m

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

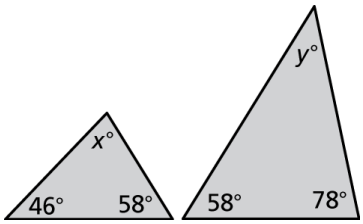
a) What is the scale of the drawing? _____

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

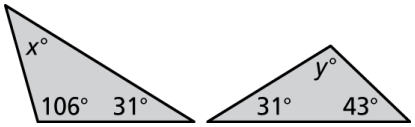
12.5 - Scale Drawings

Tell whether the triangles are similar. Explain.

41)

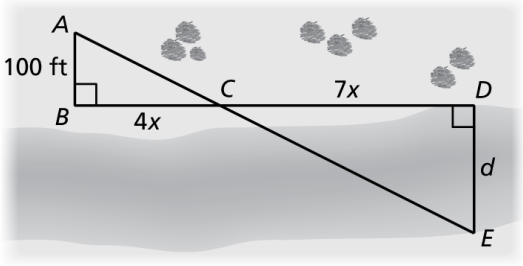


42)



43) You are trying to find the distance d across the river.

a) Explain why $\triangle ABC$ and $\triangle EDC$ are similar.



b) What is the distance across the river?