Name_____ Date_____

Unit 8: Angle & Triangle Relationships Math 8R

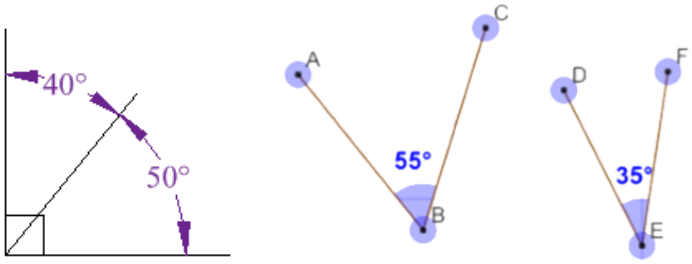
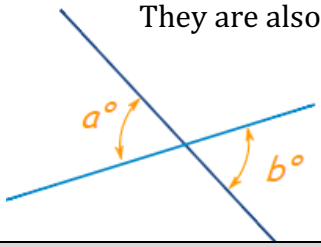
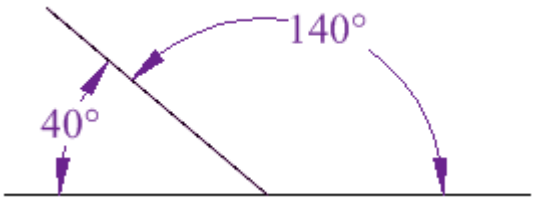
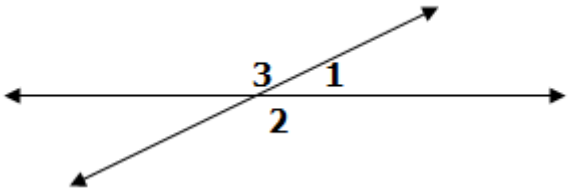
8-4 Complementary, Supplementary and Vertical Angles

"I can determine the measure of an angle using angle relationships."

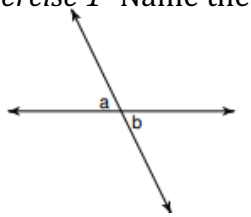
Warm Up: Answer the following questions based off your knowledge from 7th grade math.

- Define **complementary angles**:

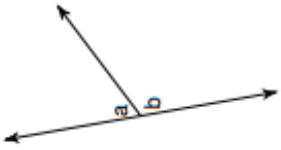
- Define **supplementary angles**:

Complementary Angles	Vertical Angles
Two angles are **complementary angles** if they add up to _____ degrees. They do not have to be next to each other. 	When two lines intersect, four angles are created. Angles that are _____ from each other are called **vertical angles**. They are also _____. 
Supplementary Angles	**Linear Pairs**
Two angles are **supplementary angles** if they add up to _____ degrees. They do not have to be next to each other. 	Adjacent supplementary angles are called **line**ar pairs because they form a _____.  $m\angle 1 + m\angle 2 =$ _____ $m\angle 1 + m\angle 3 =$ _____

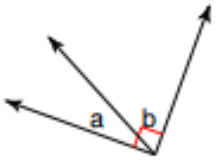
Exercise 1- Name the relationship: complementary, supplementary, vertical, or adjacent



(a) _____



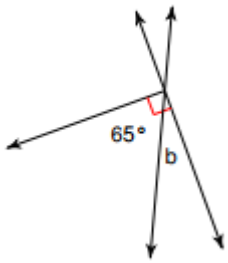
(b) _____

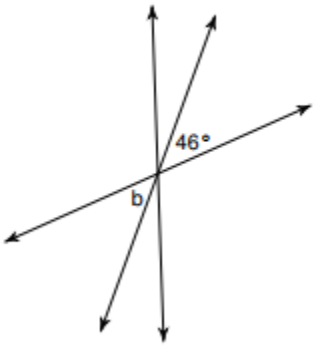


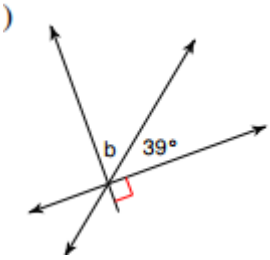
(c) _____

Exercise 2- given the diagram below; determine the missing value for the angles

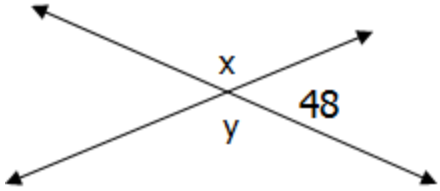
(a) _____ (b) _____ (c) _____

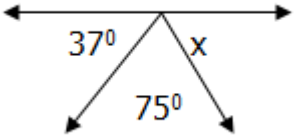


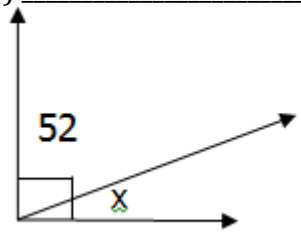




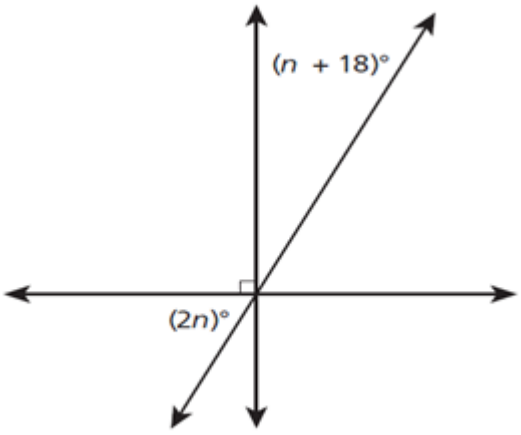
(d) _____ (e) _____ (f) _____







Exercise 3- What is the value of n, in the diagram below?



[not drawn to scale]

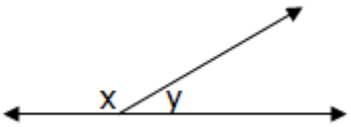
Problem Set:

(1) Which pairs of angles are complementary?

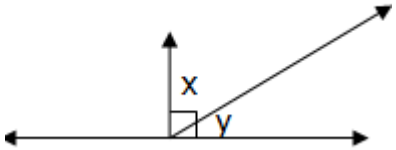
a. 42° and 58°
b. 100° and 80°
c. 38° and 52°
d. 300° and 60°

(2) If angles x and y are supplementary, which diagram below illustrates that situation?

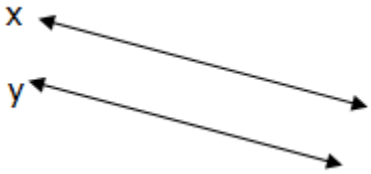
a.



b.

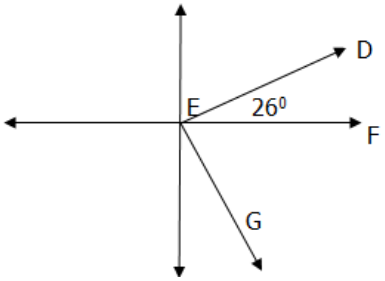


c.



(3) In the diagram below, $< DEF$ and $< FEG$ are complementary. What is the measure of $< FEG$?

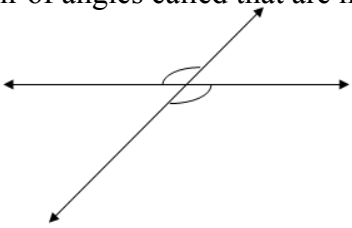
a. 90°
b. 26°
c. 52°
d. 64°



(4) Two lines that intersect to form right angles are called

a. Parallel
b. Straight
c. Obtuse
d. Perpendicular

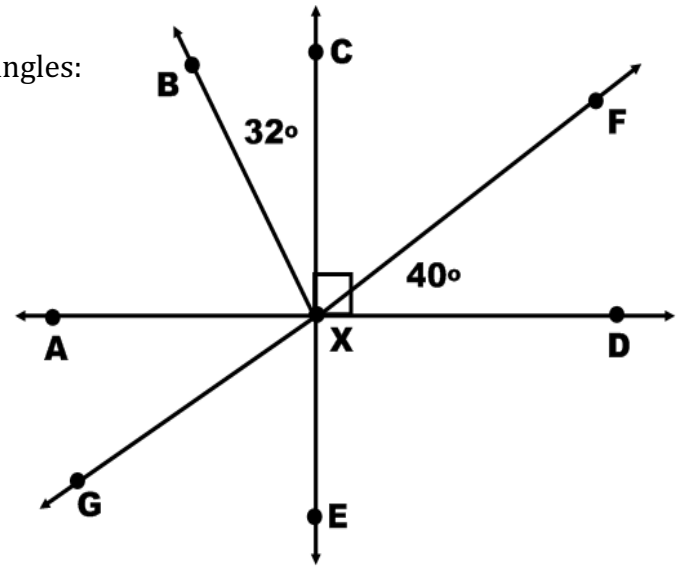
(5) What is the pair of angles called that are marked in the diagram? What do you know to be true about those angles?



They are _____ angles.

We know that these angles are _____.

(6) Given the diagram below, determine the missing angles:



(a) m$\angle CXF$ =

(b) m$\angle BXA$ =

(c) m$\angle AXG$ =

(d) m$\angle GXE$ =