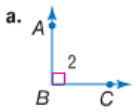
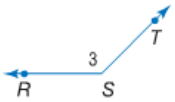
Name _____ Class Period _____

Classification and Naming of Angles

1) Name each angle below in four ways. Then classify it as acute, right, obtuse, or straight.

a. 

b. 

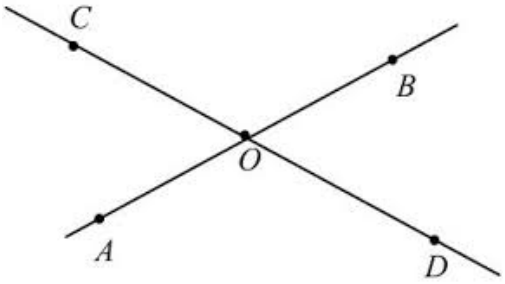
c. 

a. _____

b. _____

c. _____

What are the measurements of each of the angles in the picture at the right?



2. m∠COA _____ and m∠BOD _____

   m∠AOD _____ and m∠COB _____

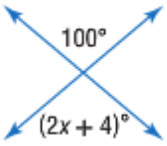
What do you notice about the measures of each pair of angles? _____

_____

_____

Opposite angles formed by the intersection of two lines are called _____. Their measures are always congruent.

3. Now use what we learned about vertical angles, and find the value of x in this figure.



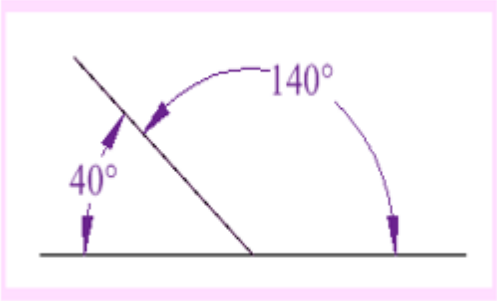
x = _____

4. ∠COA and ∠AOD are called adjacent angles. Adjacent angles are angles that have the same vertex, share a common side and don't overlap. Name three other pairs of adjacent angles from the picture above. _____

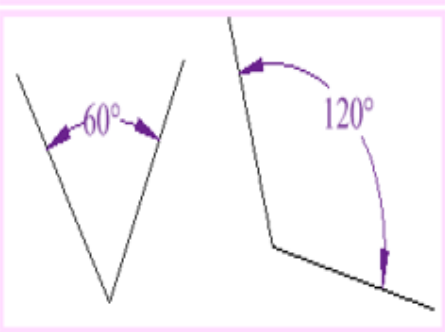
_____

5. If two angles add up to 180°, we say they "**Supplement**" each other. **Supplement** comes from Latin *supplere*, to complete or "supply" what is needed. When the sum of two angles add up to 180°, they are called _____. If the measure of an angle is 103°, we say the measure of its supplement is _____.

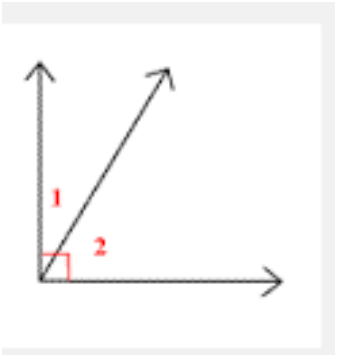
These two angles (140° and 40°) are Supplementary Angles, because the sum of their measures is 180°. Notice that together they make a straight angle.



But the angles don't have to be adjacent to be supplementary. These two are supplementary because 60° + 120° = 180°



6. What is the measure of angles 1 and 2 from the figure at the right?

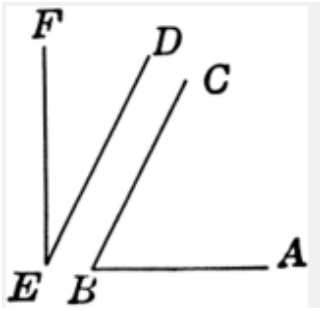


m∠1 _____ m∠2 _____

What do you notice about the sum of their measures?

_____

What is the measure of ∠DEF and ∠ABC from the figure at the right?



m∠DEF _____ m∠ABC _____

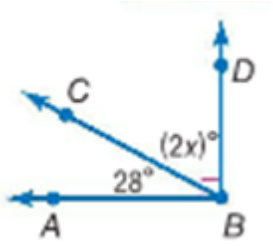
What do you notice about the sum of their measures?

_____

The two angles don't have to be adjacent to be complementary. Look at the figure with ∠DEF and ∠CBA. These two angles are complementary because the sum of their measures is 90°.

If the sum of the measures of two angles is 90°, we say they "**Complement**" each other. **Complementary** comes from Latin *completum*, meaning "completed"… because the right angle is thought of as being a complete (full) angle. When the sum of the measures of two angles is 90°, we say the two angles are _____. If an angle measures 36°, we say the measure of its complement is _____.

7. In the figure at the right, the two angles are complementary, find the value of x.



x = _____

8. In the figure below, the angles shown are supplementary.

Find the value of x. What is the measure of the angle labeled 3x?

_____

x = _____ 3x = _____

9. If the sum of the measures of two angles is 90°, the angles are supplementary.

True or False

10. Using what we have learned about vertical angles, find the value of x in the figure at the right. Now using what you know about supplementary angles find the measures of the other angles.