 Name: _____

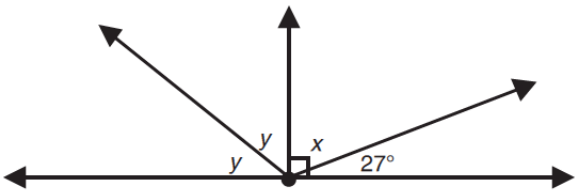
2.2.D3 – Special Angles & Postulates

Past due on: _____ Period:_____

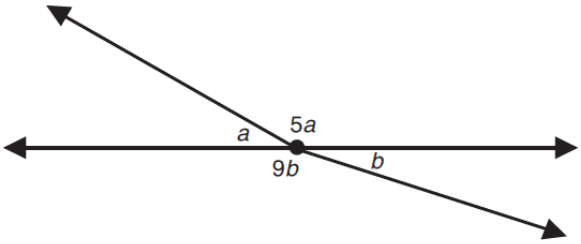
1. Suppose that $m\angle A = 66°$, $\angle B$ is complementary to $\angle A$, and $\angle C$ is supplementary to $\angle B$. What are the measures of $\angle B$ and $\angle C$?

2. One of two supplementary angles is 70° greater than the second. Find the measure of the larger angle.

3. The variables x and y in the figure represent the measures of angles. Solve for x and y.

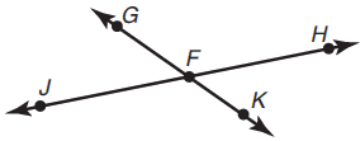


4. The variables a and b in the figure represent the measures of angles. Solve for a and b.

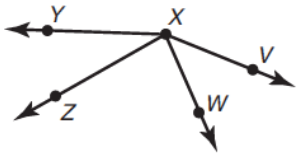


Write the postulate that confirms each statement: Linear Pair Postulate, Angle Addition Postulate, or Segment Addition Postulate.

5. Angles *GFH* and *KFH* are supplementary angles.

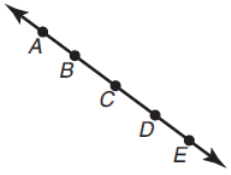


6. $m\angle WXZ + m\angle ZXY = m\angle WXY$

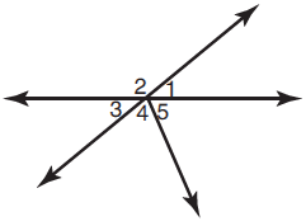


7. $m\overline{RS} + m\overline{ST} = m\overline{RT}$

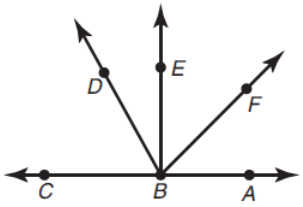
8. $BC + CD = BD$



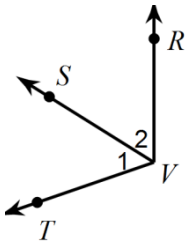
9. $m\angle 1 + m\angle 2 = 180°$



10. $m\angle DBE + m\angle EBF = m\angle DBF$

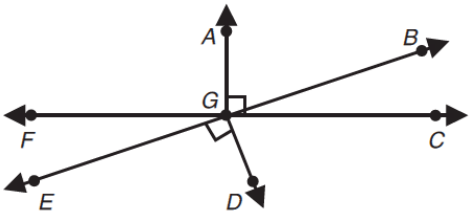


11. How many angles have V as its vertex?
12. Name $\angle 1$ using three letters.
13. Name $\angle 2$ using three letters.



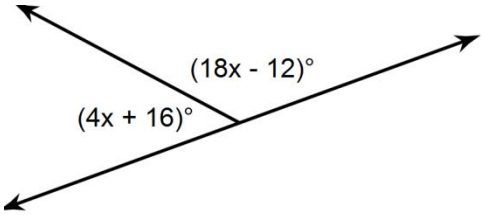
Use with problems 11 – 13.

14. Identify each of the following in the figure.
    a. Name two pairs of complementary angles.
    b. Name two pairs of supplementary angles.
    c. Name two pairs of angles that form linear pairs.
    d. Name two pairs of vertical angles.
    e. Name a pair of supplementary angles that do not form a linear pair.

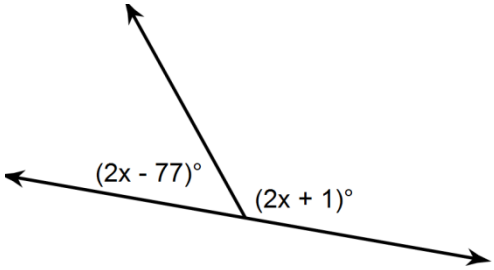


Use the Linear Pair Postulate to set up and solve an equation to find the value of x. Determine the angle measures in each diagram.

15.

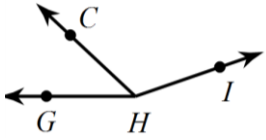


16.

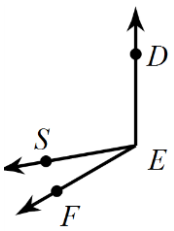


Use the Angle Addition Postulate to set up and solve an equation to find the value of x and find the indicated angle measure. *Hint: Label the diagram with the given measures.*

17. Find $m\angle GHI$ if $m\angle CHI = 118°$, $m\angle GHC = 44x - 1$, and $m\angle GHI = 161x$.

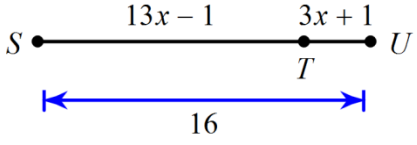


18. Find $m\angle SED$ if $m\angle FED = 120°$, $m\angle FES = 6 + 2x$, and $m\angle SED = 15x - 5$.



Use the Segment Addition Postulate to set up and solve an equation to find the value of x. Determine the lengths of all unknown segment measures.

19.



20.