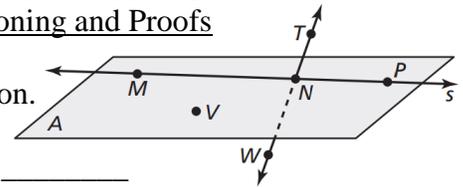


Geometry Fall Semester Review: Chapters 1 & 2

Name: _____

Show all work for full credit. PS1 – Basics of Geometry & PS2 – Reasoning and Proofs



1. Use the diagram to name the following. Be sure to use proper notation.
- a) three collinear points: _____
 - b) another name for plane A: _____
 - c) a pair of opposite rays: _____
 - d) a point not on plane A: _____
 - e) three other names for line MP: _____
 - f) three non-collinear points: _____

2. $R, S,$ and T are collinear. S is between R and T . $RS = 2w + 1, ST = w - 1,$ and $RT = 18$.

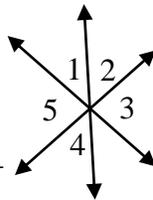
- a) Use the Segment Addition Postulate to solve for w .
- b) Then determine the length of \overline{RS} .

3. Use the points $A(-3, -8)$ and $B(-2, -5)$ to find the following between these points:

- a) slope
- b) midpoint
- c) distance

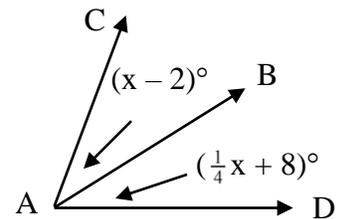
4. Find the coordinates of the other endpoint of a segment with one endpoint $X(4, -6)$ and the midpoint $M(1, 5)$.

5. Refer to the figure to the right. Name a pair of:

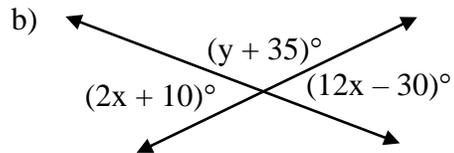
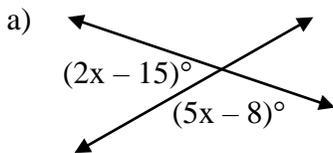


- a) Vertical angles _____
- b) Linear pair angles _____
- c) Adjacent angles _____

6. \overline{AB} bisects $m\angle CAD$. Find the value of x .

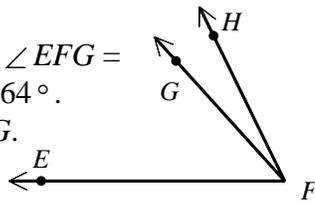


7. Refer to the following diagrams. Find the value of x and y .

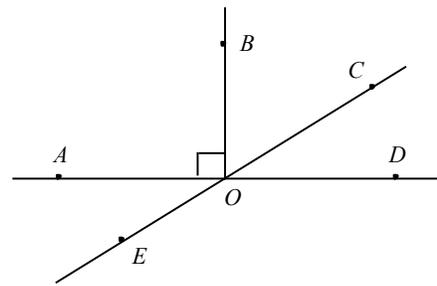


8. $m \angle HFG = (2x + 6)^\circ$, $m \angle EFG = (10x - 2)^\circ$ and $m \angle HFE = 64^\circ$.

Find $m \angle HFG$ and $m \angle EFG$.



9. Name an angle complementary to $\angle COD$



10. Use the given conditional statement to write the indicated form of that statement.

a) Write the converse of “If an angle has a measure of 25° , then it is acute.”

b) Write the converse of “If Jim lives in Orlando, then he lives in Florida.”

11. Use the true conditional statement, “A mile is a length of 5280 feet.”

a. Rewrite in if-then form

b. Box the hypothesis and circle the conclusion in part (a)

c. Write the converse

d. Write as a biconditional (if appropriate to do so – otherwise explain why not)

12. Use the given statement: If a polygon has four equal sides, then it is a square.

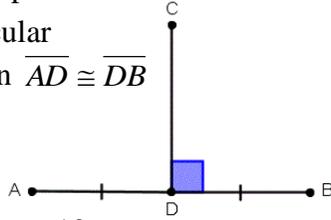
a. Is the statement True or False?

b. Explain your answer if true or give a counter example to demonstrate it is false.

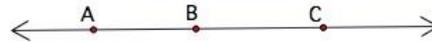
13. Which property of equality describes the following: If $x - 4 = 11$, then $x = 15$?

14. State the property, theorem, postulate or definition used to make the conclusion:

a. If \overline{CD} is a perpendicular bisector of \overline{AB} , then $\overline{AD} \cong \overline{DB}$



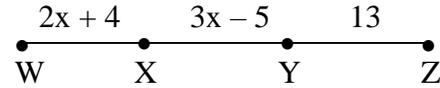
b. $AB + BC = AC$



c. If $2x + 4 = 17$, then $2x = 13$

d. If $\angle 1 \cong \angle 2$ and $\angle 2 \cong \angle 3$, then $\angle 1 \cong \angle 3$

15. In the diagram, $\overline{YZ} \cong \overline{XY}$. Find the length of \overline{WY} .

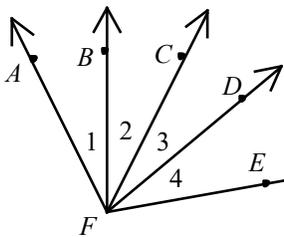


16. Two angles, $\angle 1$ and $\angle 2$, are supplementary. If $m\angle 1$ is 83° , what is $m\angle 2$?

17. Provide the reasons for all the statements in the following proof:

Given: $m\angle AFD = m\angle EFB$

Prove: $m\angle 1 = m\angle 4$



Statements	Reasons
1. $m\angle AFD = m\angle EFB$	1.
2. $m\angle AFD - m\angle BFD = m\angle EFB - m\angle BFD$	2.
3. $m\angle 1 + m\angle BFD = m\angle AFD$, $m\angle 4 + m\angle BFD = m\angle EFB$	3.
4. $m\angle 1 + m\angle BFD = m\angle AFD$, $m\angle 4 + m\angle BFD = m\angle EFB$	4.
5. $m\angle 1 = m\angle AFD - m\angle BFD$, $m\angle 4 = m\angle EFB - m\angle BFD$	5.
6. $m\angle 1 = m\angle 4$	6.

18. Prove the vertical angles theorem:

Given: $\angle 1$ and $\angle 2$ are a linear pair and

$\angle 2$ and $\angle 3$ are a linear pair

Prove: $m\angle 1 = m\angle 3$

