Geometry Accelerated Chapter 1 Practice

Name:

1. Explain what is wrong with the statement $\angle ABC = \angle DEF$. What could you do to correct the statement?

2. Given the illustration of angles below and that \overrightarrow{FD} bisects $\angle AFM$, find the value of x. Use this to find the measures of $\angle AFD$, $\angle DFM$, and $\angle AFM$.



3. Solve for *x* and *y* in the diagrams below. (Note: diagrams are not to scale.) In each case indicate what type of angle pair is indicated in the diagram.



4. Given that the point *P* is the between *E* and *M*, and EM = 32 cm, EP = 6x + 9, and PM = 4x + 3. Find the values of *x*, *EP*, *PM*, and *EM*. What is the name of the postulate that allows you to set up this equation?



5. Use the illustration below to identify each of the following. (Note: If something appears to be a straight line, you can assume that it is.)



- a) A linear pair of angles:
- b) A pair of vertical angles:
- c) A pair of adjacent angles that are <u>not</u> also a linear pair:
- d) A pair of angles that is neither adjacent nor vertical:

6. Given the illustration of angles below and $m \angle AFM = 68^{\circ}$, find the value of *x*. Use this to find the measures of $\angle AFD$, $\angle DFM$, and $\angle AFM$. What is the name of the postulate that allows you to do this?



7. Given that *A* is the midpoint of \overline{NQ} , and $NA = x^2$ and AQ = 5x - 4. Find the value of *x*, *NA*, *AQ*, and *NQ*.

- 8. Given *M* is the midpoint of \overline{AB} , *M* is at (2, 8) and *A* is at (9, -1).
 - a) Find the coordinates of *B*. Show work and/or draw a diagram.

b) Find the length (distance) of \overline{AB} . Show work and/or draw a diagram.



The point B is on the plane \mathcal{M} \overline{CD} lies on both planes \mathcal{M} and \mathcal{N} \angle DCA is on plane \mathcal{N}

Given the figure above and the statements to the right, answer the given true/false questions:

- a) Points B, C, and D are coplanar
- b) Points A, B, and C are coplanar
- c) Points A and D are collinear
- d) Planes M and N intersect at line segment \overline{CD}