Name_____   **Date** _____
Chapter 1 - Tools of Geometry – Extra Practice   **Teacher**_____

Multiple Choice
Identify the letter of the choice that best completes the statement or answers the question.(2 pts each)
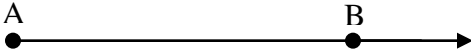
_____ 1. Intersecting lines a and b are in plane R. Line m is perpendicular to both lines
     a and b. Line m also satisfies which of the following conditions?

     a. Line m is parallel to lines a and b.
     b. Line m is skew to lines a and b.
     c. Line m is perpendicular to plane R
     d. Line m is parallel to plane R.

_____ 2. Point E is on line a. How many planes are perpendicular to line a through point E?

     a. none   b. 1   c. 2   d. infinite

_____ 3. Plane J and K are each perpendicular to $\overleftrightarrow{SW}$. Planes J and K must be

     a. intersecting   b. parallel   c. perpendicular   d. skew

_____ 4. Two parallel planes E and F are intersected by plane G. What figure is formed by
     the intersection?

     a. one parallel plane and one line
     b. one parallel line and two intersecting lines
     c. two parallel planes and one line
     d. two parallel lines

Short Answer
Please solve each problem in the section showing all work for partial credit.

5. Based on the pattern, what are the next two terms of the sequence?
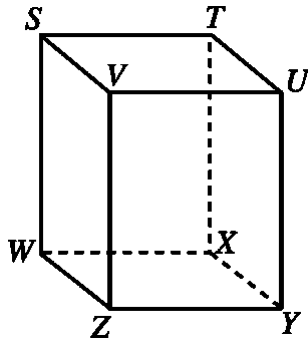   2, -4, 8, -16, 32, …

6. Name the ray in the figure.

A — B →

7. If EF = $2y + 3$, FG = $4y - 3$, and EG = 36, find the values of y, and EF.
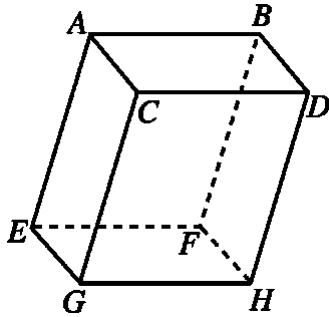*The drawing is not to scale.*

E   F   G

8. Write the intersection of plane *UVYZ* and plane *SVWZ*?

b) Is the intersection of plane *UVYZ* and plane *SVWZ* parallel to $\overline{TX}$? Justify your answer.
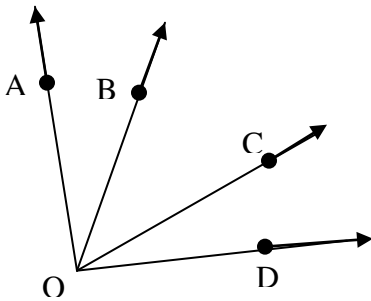
9. Name the four labeled segments that are skew to $\overline{CG}$

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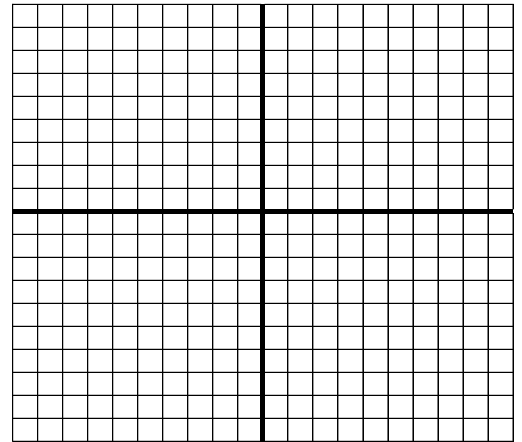Are any of the lines you chose perpendicular to $\overline{CG}$? Explain why or why not.

10. M is the midpoint of $\overline{AB}$. The coordinates of A are (-3, 6) and the coordinates of M are (1, 2). What are the coordinates of B?

11. If $m\angle AOC = 7x - 2$, $m\angle AOB = 2x + 8$, and $m\angle BOC = 3x + 14$ solve for x and find $m\angle BOC$.
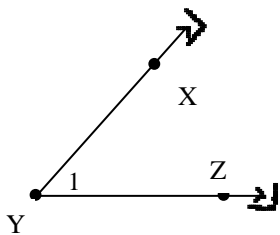
12. a. Graph ΔABC with vertices *A*(-2, 9), *B*(7, -3), and *C*(-2,-3).

b. Find the perimeter of ΔABC.

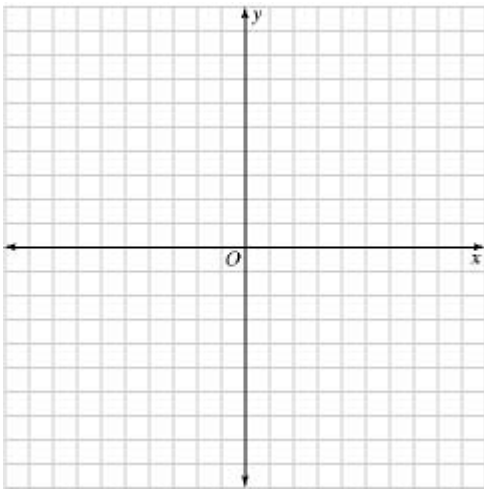13. Explain the similarities and differences between a linear pair of angles and supplementary angles.

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14. What are three names for the angle?

X

Z

1

Y

_____

_____

_____

15.   The Rush Henrietta wrestling team has a match at Marcus Whitman. The NGA is at point (3, 5) and Marcus Whitman is at point (7, -9).

a) The map shows a rest stop halfway between the schools. What are the coordinates of the rest stop?

b) If the distance is measured in miles, how far is it from the NGA to Marcus Whitman?
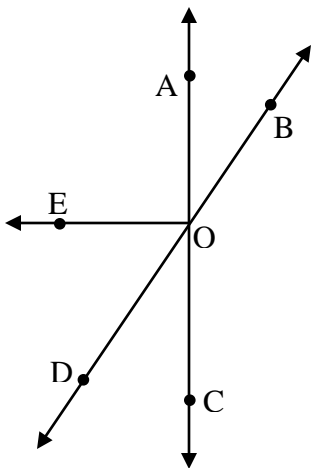

16. Draw a picture of the following situation and answer the question.

$\overrightarrow{CG}$ is perpendicular to plane X at point G. $\overleftrightarrow{DE}$ is perpendicular to plane X at point E. What is the relationship between $\overleftrightarrow{CG}$ and $\overrightarrow{DE}$.

17. Given $\overleftrightarrow{AOC}$, $\overrightarrow{BOD}$ and $\overrightarrow{OE} \perp \overleftrightarrow{AOC}$.

If $m\angle AOB = 3x+5$ and $m\angle DOC = 5x-15$ find:

$m\angle AOB =$

$m\angle BOC =$

$m\angle DOC =$

$m\angle EOD =$

$m\angle AOE =$

18. Points *L, M,* and *N* are collinear with *M* in between *L* and *N*. $\overline{LM} = 2x+8$ and $\overline{MN}$ is one half the length of $\overline{LM}$. If $\overline{LN} = 42$, write and solve an equation to find *x.*