Student Name: _____ Date: _____

Module 1 TEST: Geometric Basics

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1) What is the length of $\overline{AZ}$? Use the following information:
A is between Y and Z, $YA = 22$, $AZ = 16x$, and $YZ = 166$.

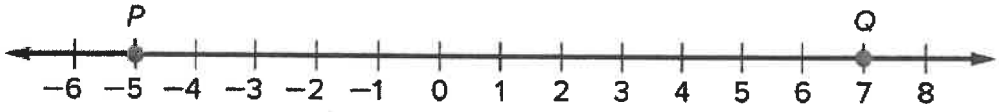
$\overline{AZ}$ = _____

2) Use the following information to find x. Write the value of the variable.

- B is between A and C;
- $AB = 3x + 6$;
- $BC = 15x - 2$; and
- $\overline{AB} \cong \overline{BC}$.

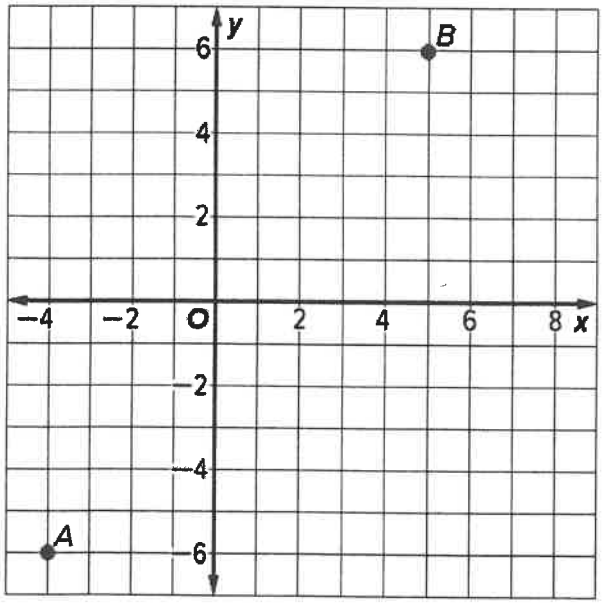
x = _____

3) The coordinate of point X on $\overline{PQ}$ such that PX to XQ is 5:1 is _____.



4) B is between A and C. If $AB = x + 2$, $BC = 2x - 3$, and $AC = 5x - 7$, what is AB?
AB = _____

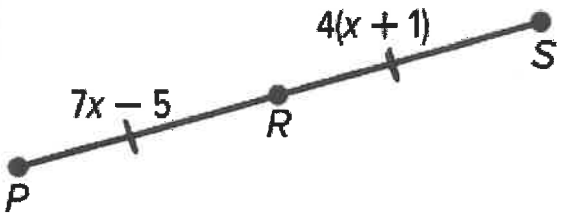
5) Find the coordinate of point C on $\overline{AB}$ such that the ratio of AC to CB is 3:6.



Point C is located at _____.

(A) $(-3\frac{1}{3}, -6)$
(B) $(1, 1)$
(C) $(-1, -2)$
(D) $(6, 8)$

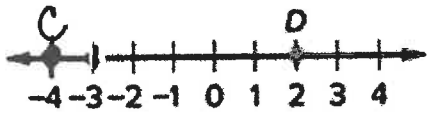
(6) What is the length of $\overline{PS}$, when R is the midpoint of $\overline{PS}$?



(A) ○ 3
(B) ○ 16
(C) ○ 23
(D) ○ 32

(7) Find the coordinate of point P that represents the weighted average where Point C weighs twice as much as point D.

Point P _____



(8) Points A and B have coordinates $A(-4, 2)$ and $B(3, -6)$. Find the coordinates of point P, the weighted average of points A and B, in which point A has a weight of 4 and point B has a weight of 3.

(A) ○ $(-\frac{7}{2}, -5)$
(B) ○ $(-1, -\frac{10}{7})$
(C) ○ $(-\frac{1}{2}, -2)$
(D) ○ $(0, -\frac{20}{7})$

(9) What are the three undefined terms in Geometry?

- ☐ Bisect
- ☐ Plane
- ☐ Segment
- ☐ Angle
- ☐ Point
- ☐ Line
- ☐ Congruence

(10) Find the coordinates of the midpoint of a segment with the endpoints (9, −3) and (5, 1).

(_____, _____)

Midpoint Formula
$(x_M, y_M) = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$

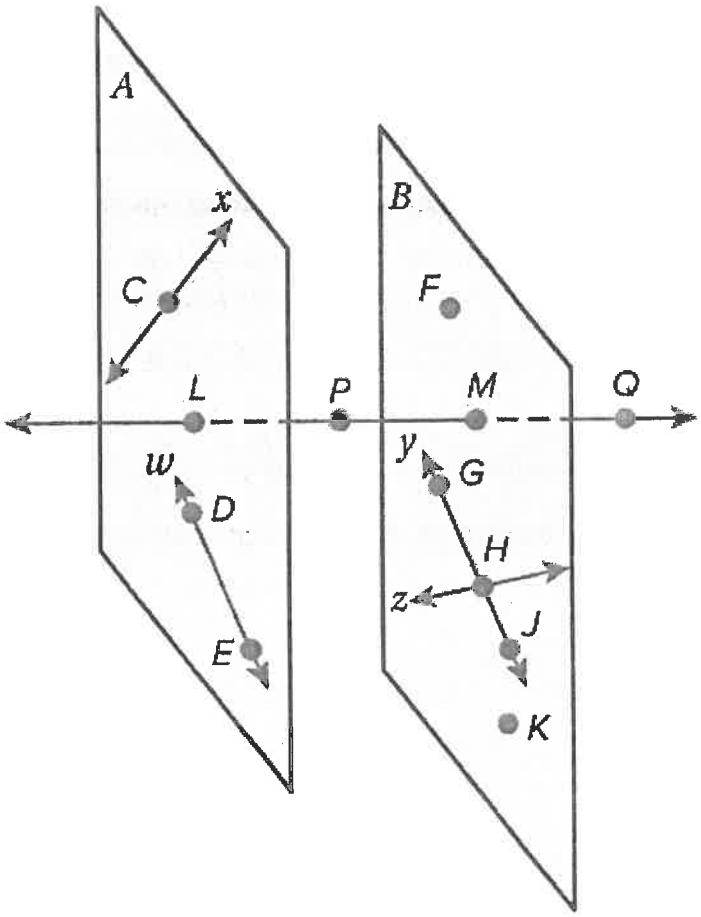
11 Refer to the figure. Name the intersection of lines y and z.

Point _____

12 Name the plane containing the lines w and x.

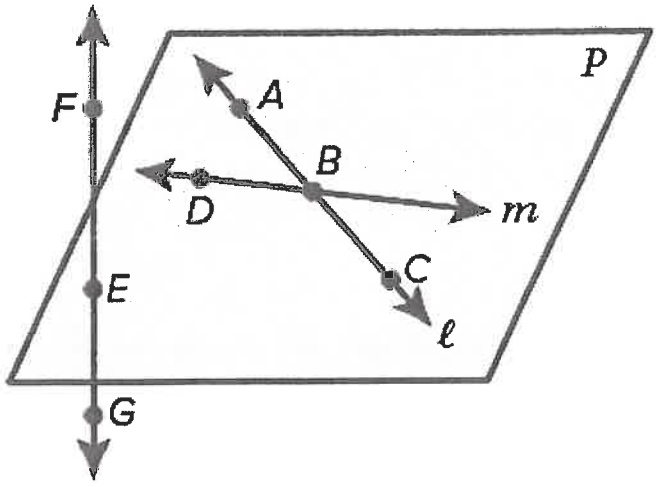
• 2 WAYS

Plane _____



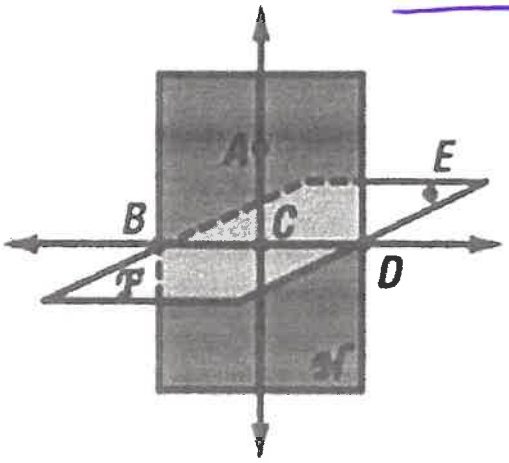
Which is not a point in plane P?

13



(A) ○ A
(B) ○ B
(C) ○ E
(D) ○ G

14 Where does Plane N and Plane F intersect?



EXTRA CREDIT!!!

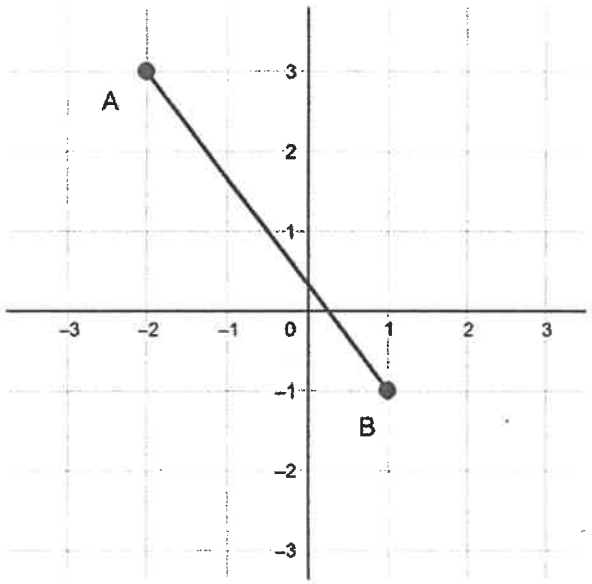
Find the distance of line AB.

$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

d = distance

(x_1, y_1) = coordinates of the first point

(x_2, y_2) = coordinates of the second point



Find the coordinates of the missing endpoint if B is the midpoint of $\overline{AC}$.

*Graph to prove answer!!

$C(-5, 4)$, $B(-2, 5)$

$A($_____, _____$)$