

Name: _____

UNIT 7

Date: _____

LESSON 6

AIM: DIRECTED LINE SEGMENTS + MIXED REVIEW!

RECALL: DIRECTED LINE SEGMENT FORMULA-

$$\left(\text{---} + \left(\text{---} \right) \left(\text{---} \right), \text{---} + \left(\text{---} \right) \left(\text{---} \right) \right)$$

1. Determine the point P that partitions the directed line segment \overline{AB} into a ratio of 3:1, where A (1,-5) and B (9,-1).

2. The point P divides \overline{AB} into a ratio of 4:1, where $AP > BP$. If $A(-9, -5)$ and $B(11, -2)$, where is P?

(1) $\left(7, -2\frac{3}{5} \right)$

(2) $\left(6, -\frac{1}{4} \right)$

(3) $\left(-4, -3\frac{1}{4} \right)$

(4) $\left(-5, -3\frac{3}{5} \right)$

3. Segment CD has point E located on it such that CE:ED = 3:5. If the endpoints are located at C(-5, -6) and D(11,18) then find the coordinates of E. Show how you arrived at your answer.

Oh no! One of the students won't be in class tomorrow because they did something wrong! Your job is to find out who did what and where! Solve each problem to eliminate that suspect, crime or location to find out who the *culprit* is that will end up in Mr. Gomez's office!

Suspects		Crime		Location	
	Akeel		Going to the bathroom and never coming back Being late to class Texting during class Snapchatting during class		Classroom
	Shayna			Cafeteria	
	Julie			Auditorium	
	James			Ledge	
				Main Office	

Final Answer	
The Suspect	_____
The Crime	_____
The Location	_____



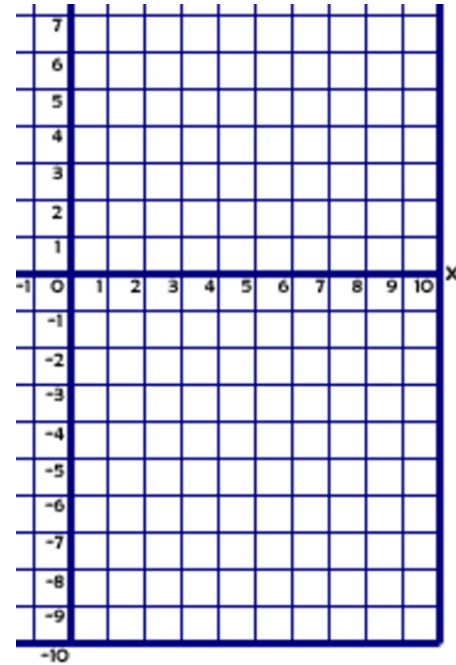
Clue #1

1. State the equation of a line parallel to $3y = 2x + 12$.

1.	$y = \frac{2}{3}x + 6$	The crime did not take place on the ledge.
2.	$y = 2x + 6$	Julie did not commit the crime.
3)	$y = \frac{3}{2}x + 8$	The crime was not going to the bathroom and never coming back.
4)	$y = -\frac{3}{2}x + 4$	The crime was not snapchatting during class.

Clue #2

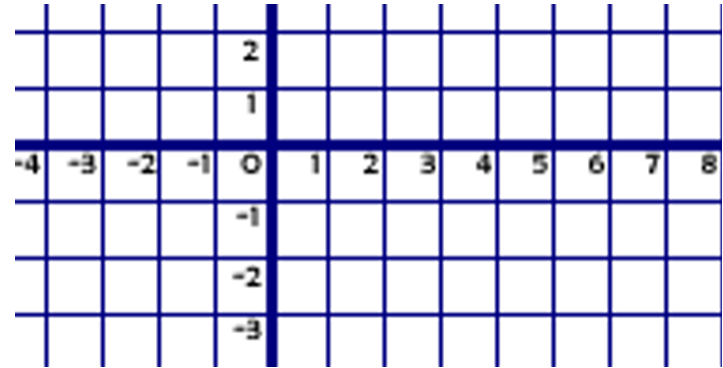
Determine the point P that partitions the directed line segment \overline{AB} into a ratio of 1:3, where A (2,6) and B (6,-10).



1) (2,3)	The crime was not texting in class.
2) (-3,2)	Shayna did not commit the crime.
3) (3,2)	The crime was not in cafeteria.
4) (-2,3)	Julie did not commit the crime.

Clue #3

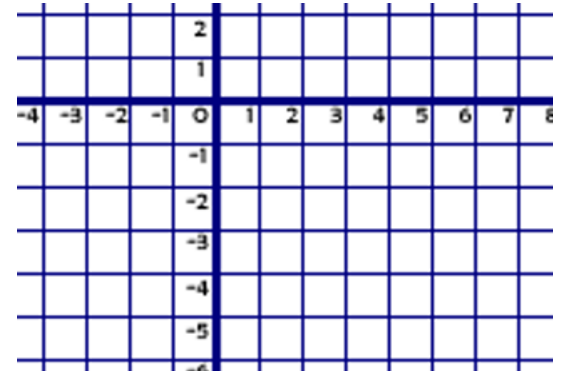
Find the coordinate of point P that lies along the directed segment from C(-3,-2) to D(6,1) and partitions the segment in the ratio 2 to 1.



1) (-3,0)	James did not commit the crime.
2) (3,1)	The crime was not on the ledge.
3) (3,0)	The crime did not happen in the main office.
4) (0,3)	The crime was not in the gym.

Clue #4

Find the coordinate of point P that lies along the directed segment from R(-3,-4) to S(5,0) and partitions the segment in the ratio 1 to 3.



1) (5,5)	The crime did not happen in the gym.
2) (-3,-1)	The crime was not in the cafeteria.
3) (-1,-3)	James did not commit the crime.
4) (1,3)	The crime was not in a classroom.

Clue #5

Segment RS has endpoints a $R(5, -3)$ and $S(5, 13)$. Point Q lies on RS such that $RQ:QS = 3:1$. Which of the following must be the coordinates of Q?

1) (5,1)	Akeel did not commit the crime.
2) (17,3)	The crime was not in the auditorium.
3) (5,9)	Shayna did not commit the crime.
4) (6,4)	The crime was not snapchatting during class.

Clue #6

Segment EF has endpoints at $E(-7,14)$ and $F(11,5)$. Point P lies on EF such that $EP:PF = 2:7$, find the coordinate of point P.

1) (11,12)	Shayna did not commit the crime.
2) (3,12)	The crime was not coming late to class.
3) (-3,12)	The crime was not snapchatting during class.
4) (12,-3)	Akeel did not commit the crime.

Clue #7

Segment AB has endpoints at $A(-4, -8)$ and $B(10, 13)$. If point P lies on AB such that $AP:BP = 2:5$, find the coordinates of P. Show all your work.

1) (8,13)	The crime did not happen in the auditorium.
2) (2,0)	Akeel did not commit the crime.
3) (0,-2)	The crime was not going to the bathroom and never coming back.
4) (0,2)	The crime was not texting in class.

Clue #8

Segment GH has endpoints at $G(-4,9)$ and $H(8,3)$. Point J lies on GH inbetween G and H such that $GJ:JH = 1:3$. Find the coordinates of J . Find the coordinates of J .

1) $(1,7.5)$	The crime was not going to the bathroom and never coming back.
2) $(7.5, -1)$	The crime was not in the cafeteria.
3) $(3,2)$	Akeel did not commit the crime.
4) $(-1, 7.5)$	Julie did not commit the crime.

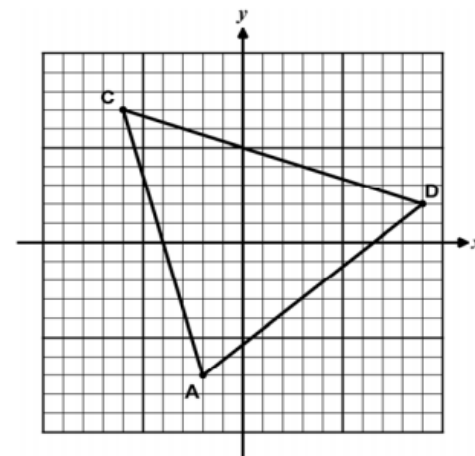
Clue #9

Which equation represents a line parallel to the line whose equation is $2y - 5x = 10$ and passes through the point $(2, 7)$?

1) $y - 7 = -\frac{2}{5}(x - 2)$	The crime was not being late to class.
2) $y - 7 = \frac{5}{2}(x - 2)$	The crime was not in the auditorium.
3) $y + 7 = \frac{5}{2}(x + 2)$	The crime was not snapchatting during class.
4) $y + 7 = -\frac{2}{5}(x + 2)$	The crime was not going to the bathroom and never coming back.

Clue #10

In the diagram shown, $\triangle ADC$ has vertices $A(-2, -7)$, $D(9, 2)$, and $C(-6, 7)$. What is the slope of the altitude drawn from C to \overline{AD} ?



1) $-\frac{11}{9}$	The crime was not texting during class.
2) $\frac{11}{9}$	James did not commit the crime.
3) $\frac{-11}{9}$	The crime was not in the cafeteria.
4) $\frac{9}{11}$	Akeel did not commit the crime.

