

Analytic Geometry Strand Expectations:

- 1) model and solve problems involving the intersection of two straight lines
- 2) solve problems using analytic geometry involving properties of lines and line segments
- 3) verify geometric properties of triangles and quadrilaterals, using analytic geometry

May 30-8:39 AM

Analytic Geometry Strand Expectations:

- 1) model and solve problems involving the intersection of two straight lines

- slope and y-intercept

$$y = mx + b$$

- parallel or perpendicular // \perp
 negative reciprocal of

$$m_1 = m_2$$

$$m_1 = -\frac{1}{m_2}$$

- table of values

- use equation to generate TOV

- first differences are constant if data is linear.

- substitution, elimination, graphing

May 30-8:58 AM

Analytic Geometry Strand Expectations:

2) solve problems using analytic geometry involving properties of lines and line segments

- parallel and perpendicular

- midpoint $M\left(\frac{x_1+x_2}{2}, \frac{y_1+y_2}{2}\right)$

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

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

$$x^2 + y^2 = r^2 \quad \text{equation of a circle}$$

May 30-8:59 AM

Analytic Geometry Strand Expectations:

3) verify geometric properties of triangles and quadrilaterals, using analytic geometry

- altitude, median, perpendicular

$\begin{array}{ccc} \updownarrow & \updownarrow & \updownarrow \\ \text{orthocentre} & \text{centroid} & \text{circumcentre} \end{array}$

triangle centres

- Verify geometric shapes
(e.g., is a shape a rhombus?)

May 30-8:59 AM

Assigned work for Monday - Tuesday:

p. 189 # 1-15

(solve fully, not just as multiple choice)

May 30-10:13 AM

$$2. \quad x - 2y = 1$$

$$3x - 4y = 7$$

$$x = 2y + 1$$

sub x into

$$3x - 4y = 7$$

$$x - 2(2) = 1$$

$$x = 4 + 1$$

$$x = 5$$

$$3(2y + 1) - 4y = 7$$

$$6y + 3 - 4y = 7$$

$$2y = 4$$

$$y = 2$$

$$x = 5 \quad y = 2$$

(B)

Jan 10-10:30 AM

1) $\begin{array}{l l} \text{LS} & \text{RS} \\ \hline 3x-2y & -11 \\ 3(-1)-2(2) & \\ -11 & \end{array}$	$\begin{array}{l l} \text{LS} & \text{RS} \\ \hline 5x+y & -1 \\ 5(1)+1 & \\ -1 & \end{array}$
--	--

3a.

$y = 1.25x + 15$ is equal to $5x - 4y + 6 = 0$

$$\begin{array}{l} 5x - 4y + 6 = 0 \\ \frac{4}{4} = \frac{5x+6}{4} \\ y = 1.25x + 15 \end{array} \quad \begin{array}{l} \therefore 5x - 4y + 6 = 0 \\ \text{is equal to} \\ y = 1.25x + 15 \end{array}$$

Jan 10-10:48 AM

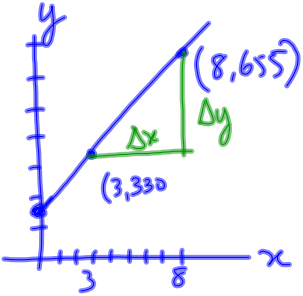
8] The answer is (c)

$$\begin{aligned} \text{midpoint} &= \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right) \\ &= \left(\frac{-1 + 7}{2}, \frac{3 - 7}{2} \right) \\ &= \left(\frac{6}{2}, \frac{-4}{2} \right) \\ &= (3, -2) \end{aligned}$$

Jan 10-11:00 AM

4.

x	y
3	330
8	655



$$m = \frac{655 - 330}{8 - 3}$$

$$= \frac{325}{5}$$

$$= 65 \rightarrow \text{monthly fee}$$

$$y = mx + b$$

$$y = 65x + b$$

Sub (3, 330)

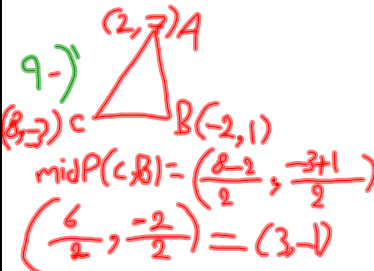
$$330 = 65(3) + b$$

$$330 = 195 + b$$

$$135 = b$$

Jan 10-11:06 AM

9-)



mid P(C, B) = $\left(\frac{8-2}{2}, \frac{-3+1}{2}\right)$

$\left(\frac{6}{2}, \frac{-2}{2}\right) = (3, -1)$

$$MA = \frac{y_2 - y_1}{x_2 - x_1}$$

$$= \frac{7-1}{2-3}$$

$$= \frac{6}{-1}$$

$$= -6$$

$y = -6x + b$ — Sub (3, -1)

$$-1 = -2 + b$$

$$-1 + 2 = b$$

$$1 = b \rightarrow y = -6x + 1 \quad \text{Ans: (D)}$$

Jan 10-11:16 AM