



DATE 12.10.2019.

IG - Maths

0580

Coordinate Geometry

Exercise: Paper - 4

SP-20; M-19; M-18; S-19; S-18; W-18.

Suresh goel

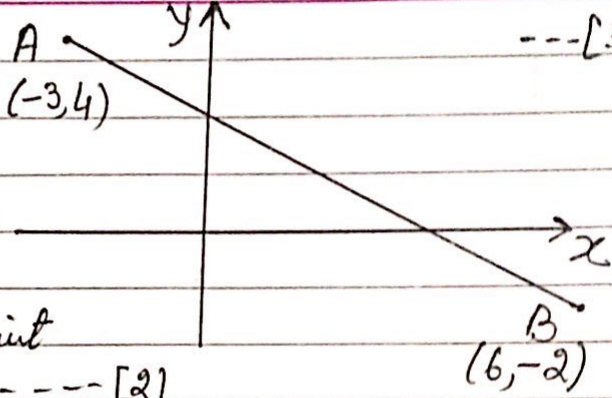
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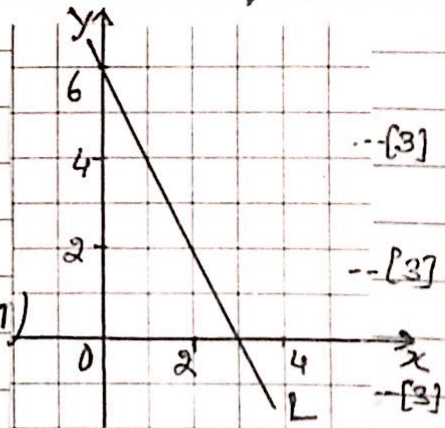
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1. (a) Calculate the length of AB.  ---[3]
- (b) The point P has coordinates (10, 12) and the point Q has coordinates (2, -4). Find
- (i) the coordinates of the midpoint of the line PQ. ---[2]
- (ii) the gradient of the line PQ ---[2]
- (iii) the equation of a line perpendicular to PQ that passes through the point (2, 3). m-18/42/Q10 ---[3]

- 2 (a) The equation of a straight line is $2y = 3x + 4$
- (i) Find the gradient of this line. ---[1]
- (ii) Find the coordinates of the point where the line crosses y-axis. ---[1]
- (b) The diagram shows a straight line L.  ---[3]
- (i) Find the equation of line L. ---[3]
- (ii) Find the equation of line perpendicular to line L that passes through (9, 3). ---[3]
- (c) A is the point (8, 5) and B is the point (-4, 1)
- (i) Calculate the length of AB. ---[3]
- (ii) Find the co-ordinates of the mid point of AB. S-19/42/Q4 ---[2]

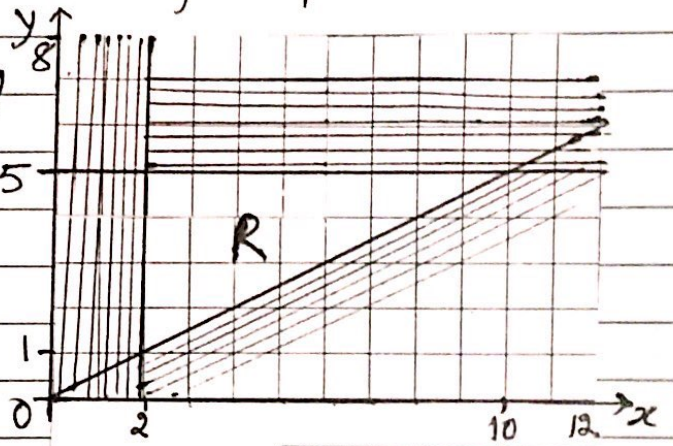
- 3 A straight line joins the points A(-2, -3) and C(1, 9)
- (a) Find the equation of line AC in the form $y = mx + c$ ---[3]
- (b) Calculate the acute angle between AC and the x-axis ---[2]
- (c) ABCD is a kite, where AC is the longer diagonal of the kite. B is the point (3.5, 2).
- (i) Find the equation of the line BD in the form $y = mx + c$ ---[3]
- (ii) The diagonals AC and BD intersect at (-0.5, 3).
Work out the co-ordinates of D. S-19/43/Q7 ---[2]



4. (a) Find the equation of the straight line that is perpendicular to the line $y = \frac{1}{2}x + 1$ and passes through the point $(1, 3)$ --- [3]

(b) (i) Find the three inequalities that define the region R. --- [4]

(ii) Find the point (x, y) , with integer co-ordinates, inside the region R such that $3x + 5y = 35$ ---- [2]



S-18/43/Q9

5 (a) Write down the co-ordinates of A. --- [1]

(b) Find the equation of line l in the form $y = mx + c$.

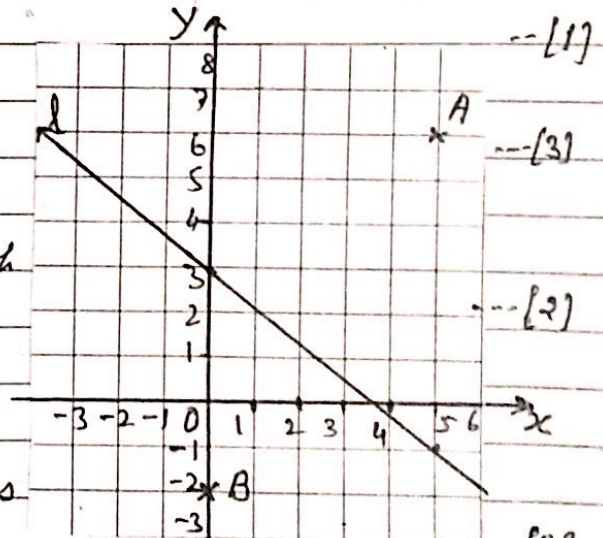
(c) Write down the equation of the line parallel to line l that passes through the point B. --- [2]

(d) C is the point $(8, 14)$

(i) Write down the equation of line perpendicular to line l that passes through the point C. --- [3]

(ii) Calculate the length AC. --- [3]

(iii) Find the coordinates of the mid point of BC. --- [2]



W-18/41/Q8



Answers

1(a) 10.8 or 10.81

(b) (i) $(6, 4)$ (ii) 2 (iii) $y = -\frac{1}{2}x + 4$

2(a) (i) 1.5 (ii) $(0, 2)$

(b) (i) $y = -2x + 6$

(ii) $y = 0.5x - 1.5$

(c) (i) 12.6 (ii) $(2, 3)$

3. (a) $y = 4x + 5$

(b) 76.0

(c) (i) $y = -\frac{1}{4}x + \frac{23}{8}$

(ii) $(-4.5, 4)$

4. (a) $y = -2x + 5$

(b) (i) $x \geq 2$

$y \leq 5$

$y \geq \frac{1}{2}x$

(ii) $(5, 4)$

5. (a) $(5, 6)$

(b) $y = -\frac{4}{5}x + 3$

(c) $y = -\frac{4}{5}x - 2$

(d) (i) $y = \frac{5}{4}x + 4$

(ii) 8.54

(iii) $(4, 6)$

