

1G- Maths

0580

Coordinate Geometry

Exercise

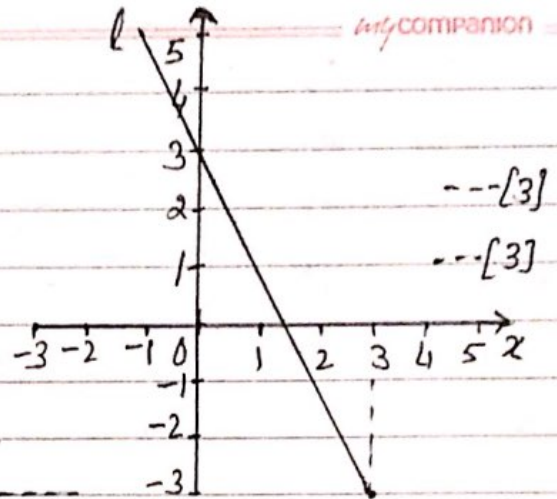
Paper-2

(Suresh Goel.)

Q1. (a) Find the equation of line l .

Give your answer in the form $y = mx + c$.

(b) A line perpendicular to the line l , passes through the point $(3, -1)$. Find the equation of this line.



M-17/22/Q20

Q2 A line has gradient 5. M and N are two points on this line.

M is the point $(x, 8)$ and N is the point $(k, 23)$.

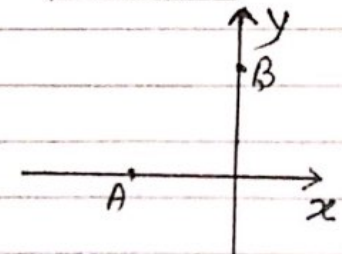
Find an expression for x in terms of k .

S-17/21/Q12 --- [3]

Q3 A is the point $(-2, 0)$ and B is the point $(0, 4)$.

(a) Find the equation of the straight line joining A and B. --- [3]

(b) Find the equation of the perpendicular bisector of AB. --- [4]

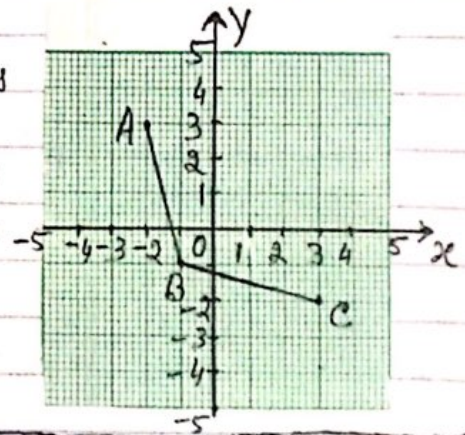


S-17/22/Q27

Q4 The diagram shows two sides of a rhombus ABCD.

(a) Write down the coordinates of A. --- [1]

(b) Complete the rhombus ABCD on the grid. --- [1]



W-17/21/Q6

Q5

$y = mx + c$, Find the value of y when,

$m = -2$, $x = -7$ and $c = -3$

S-16/21/Q7 --- [2]

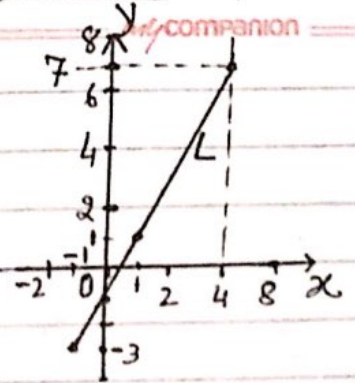
Q6

A is the point $(4, 1)$ and B is the point $(10, 15)$

Find the equation of the perpendicular bisector of the line AB. --- [6]

S-16/21/Q25

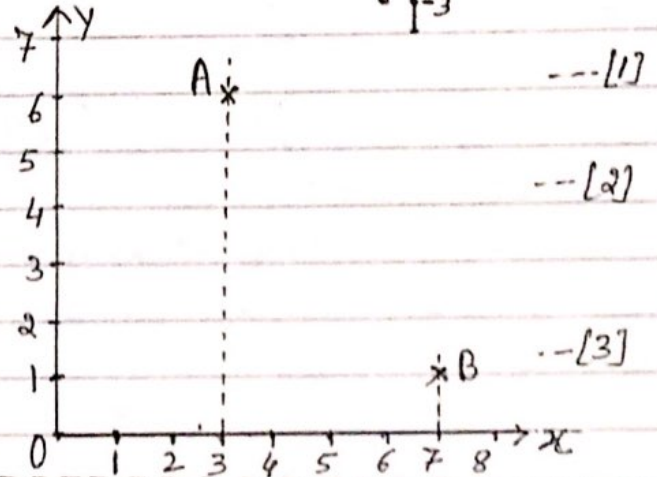
- Q7 (a) Work out the gradient of the line L. --- [2]
 (b) Write down the equation of the line parallel to the line L that passes through the point (0,6). --- [2]



S-16/23/Q18

Q8 Point A has coordinates (3,6)

- (a) Write down the co-ordinates of point B. --- [1]
 (b) Find the gradient of the line AB. --- [2]
 (c) Find the equation of the line that
 • is perpendicular to the line AB,
 and • passes through the point (0,2). --- [3]



W-16/22/Q20

Q9 A is the point (8,3) and B is the point (12,1). Find the equation of the line, perpendicular to line AB, which passes through the point (0,0). --- [3]

W-16/23/Q17

Find the equation of the line that.

- Q10 • is perpendicular to the line $y = 3x - 1$
 and • passes through the point (7,4). --- [3]

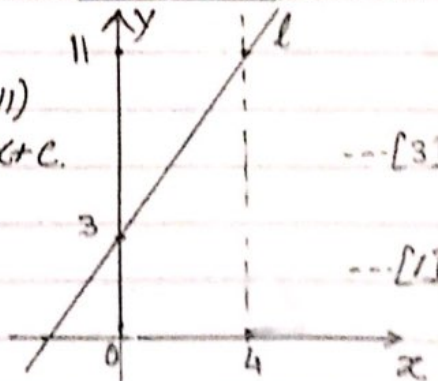
M-15/22/Q14

Q11 The point A has co-ordinates (-4,6) and the point B has co-ordinates (7,-2). Calculate the length of the line AB. --- [5]

S-15/21/Q8

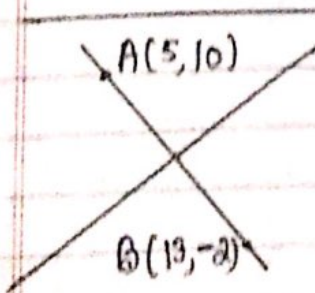
Q12 The diagram shows the straight line, l, which passes through the points (0,3) and (4,11)

- (a) Find the equation of line l in the form $y = mx + c$. --- [3]
 (b) Line p is perpendicular to line l. Write down the gradient of line p. --- [1]



S-15/22/Q17

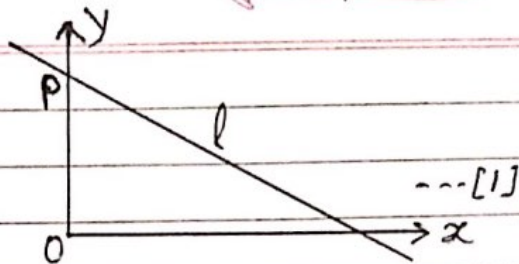
Q13



A(5,10) and B(13,-2) are two points on the line AB. The perp. bisector of the line AB has gradient $\frac{2}{3}$. Find the equation of perp. bisector of AB. --- [4]

S-14/21/Q14

Q14 The equation of the line l in the diagram is $y = 5 - 2x$



(a) The line cuts the y -axis at P . Write down the coordinates of P . --- [1]

(b) Write down the gradient of l . [S-14/22/Q5] --- [1]

Q15 Find the equation of the line passing through the points with co-ordinates $(5, 9)$ and $(-3, 13)$. [S-14/23/Q13] --- [3]

Q16 Find the equation of line passing through the points $(0, -1)$ and $(3, 5)$. [S-13/21/Q17] --- [3]

Q17 $A(5, 23)$ and $B(-2, 2)$ are two points.

(a) Find the coordinates of the mid point of line AB . --- [2]

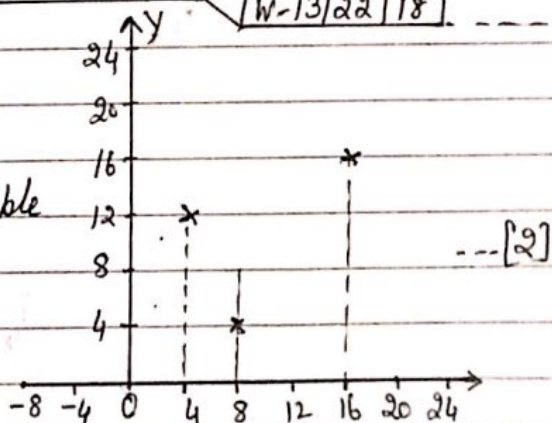
(b) Find the equation of line AB . --- [3]

(c) Show that the point $(3, 17)$ lies on the line AB . --- [1]

[W-13/22/18] ---

Q18 Three vertices of a parallelogram are at $(4, 12)$, $(8, 4)$ and $(16, 16)$.

Write down the co-ordinates of two possible positions of the fourth vertex. --- [2]



[W-13/23/Q22]

Answers

- Q1 (a) $y = -2x + 3$ (b) $y = \frac{1}{2}x - \frac{5}{2}$
- Q2 $x = k - 3$
- Q3 (a) $y = 2x + 4$ (b) $y = -\frac{1}{2}x + \frac{3}{2}$
- Q4 (a) $(-2, 3)$, fourth point $(2, 2)$
- Q5 11
- Q6 $y = -\frac{3}{7}x + 11$
- Q7 (a) 2 (b) $y = 2x + 6$
- Q8 (a) $(7, 1)$ (b) $-\frac{5}{4}$
- (c) $y = \frac{4}{5}x + 2$
- Q9 $y = 2x$
- Q10 $3y + x = 19$

- Q11 13.6
- Q12 (a) $y = 2x + 3$ (b) $-\frac{1}{2}$
- Q13 $y = \frac{2}{3}x - 2$
- Q14 (a) $(0, 5)$ (b) -1
- Q15 $y = -0.5x + 11.5$
- Q16 $y = 2x - 1$
- Q17 (a) $(1.5, 12.5)$, (b) $y = 3x + 8$
- (c) Prove by substitution in the equation
- Q18 Any two of $(20, 8)$, $(-4, 0)$ and $(12, 24)$.