

Mathematics

0580

Paper - 2

Coordinate Geometry

Exercise - (M-19, M-18, S-19, S-18)  
and (W-18.)

(with answers)

Suresh GOEL

(Director)

Alliance World School,

Noida - Delhi - NCR.

INDIA,

1. A is the point (2,3) and B is the point (7,-5).  
 (a) Find the co-ordinates of the mid-point of AB. --- [2]  
 (b) Find the equation of the line through A that is perpendicular to AB. Give your answer in the form  $y = mx + c$ . [M-19/22/Q23] --- [4]

2. (a) Find the co-ordinates of the point where the line  $y = 3x - 8$  crosses the y-axis. --- [1]  
 (b) Write the gradient of the line  $y = 3x - 8$  [S-19/23/Q5] --- [1]

3. A is the point (7,12) and B is the point (2,-1).  
 Find the length of AB. [S-19/23/Q15] --- [3]

4. (a) Point A has coordinates (1,0) and point B has co-ordinates (2,5). Calculate the angle between the line AB and the x-axis. --- [3]  
 (b) The line PQ has equation  $y = 3x - 8$  and point P has co-ordinates (6,10). Find the equation of the line that passes through P and is perpendicular to PQ. Give your answer in the form  $y = mx + c$ . [S-18/21/Q24] --- [3]

5. P is the point (16,9) and Q is the point (22,24).  
 (a) Find the equation of the line perpendicular to PQ that passes through the point (5,1). Give your answer in the form  $y = mx + c$ . --- [4]  
 (b) N is the point on PQ such that  $PN = 2NQ$ . Find the coordinates of N. [S-18/22/Q25] --- [2]

6. Find the mid-point of AB where  $A = (w, r)$  and  $B = (3w, t)$ . Give your answer in its simplest form in terms of  $w, r$  and  $t$ . --- [2]  
 [W-18/22/10]

7. The diagram shows the points C(-1,2) and D(9,7). Find the equation of the line perpendicular to CD that passes through the point (1,3). Give your answer in the form  $y = mx + c$ . [W-18/22/Q17] --- [4]

Answers

1. (a)  $(4.5, -1)$  ✓

(b)  $y = \frac{5}{8}x + \frac{7}{4}$  ✓

2. (a)  $(0, -8)$  ✓

(b)  $3$  ✓

3.  $AB = \sqrt{194} = 13.92$  ✓

4. (a)  $78.7^\circ$  ✓

(b)  $y = -\frac{1}{3}x + 12$  ✓

5. (a)  $y = -\frac{2}{5}x + 3$  ✓

(b)  $(20, 19)$  ✓

6.  $(2w, \frac{2+t}{2})$  ✓

7.  $y = -2x + 5$  ✓

