1   The slope of the line joining $(12, 3)$, $(4, a)$ is $\frac{1}{8}$. The value of 'a' is

   (A) 1 (B) 4 (C) -5 (D) 2

2   The equation of a line passing through the origin and perpendicular to the line $7x - 3y + 4 = 0$ is

   (A) $7x - 3y + 4 = 0$ (B) $3x - 7y + 4 = 0$ (C) $3x + 7y = 0$ (D) $7x - 3y = 0$

3   A man walks near a wall, such that the distance between him and the wall is 10 units. Consider the wall to be the Y axis. The path travelled by the man is

   (A) $x = 10$ (B) $y = 10$ (C) $x = 0$ (D) $y = 0$

4   Consider four straight lines

   (i) l_1; $3y = 4x + 5$ (ii) l_2; $4y = 3x - 1$ (iii) l_3; $4y + 3x = 7$ (iv) l_4; $4x + 3y = 2$

   Which of the following statement is true ?

   (A) l_1 and l_2 are perpendicular   (B) l_1 and l_4 are parallel

   (C) l_2 and l_4 are perpendicular   (D) l_2 and l_3 are parallel

5   The slope of the line which is perpendicular to a line joining the points $(0, 0)$ and $(-8, 8)$ is

   (A) -1 (B) 1 (C) $\frac{1}{3}$ (D) -8

6   $(2, 1)$ is the point of intersection of two lines.

   (A) $x - y - 3 = 0$; $3x - y - 7 = 0$ (B) $x + y = 3$; $3x + y = 7$

   (C) $3x + y = 3$; $x + y = 7$ (D) $x + 3y - 3 = 0$; $x - y - 7 = 0$

7   If $(5,7)$, $(3,p)$ and $(6,6)$ are collinear, then the value of p is
    (A) 3   (B) 6   (C) 9   (D) 12

8   When proving that a quadrilateral is a trapezium, it is necessary to show
    (A) Two sides are parallel.   (B) Two parallel and two non-parallel sides.
    (C) Opposite sides are parallel.   (D) All sides are of equal length.

9   If slope of the line PQ is $\dfrac{1}{\sqrt{3}}$ then slope of the perpendicular bisector of PQ is
    (A) $\sqrt{3}$ (B) $-\sqrt{3}$ (C) $\dfrac{1}{\sqrt{3}}$ (D) 0

10 The point of intersection of $3x - y = 4$ and $x + y = 8$ is
    (A) $(5,3)$ (B) $(2,4)$ (C) $(3,5)$ (D) $(4,4)$