INTENSIVE REVISION QUESTIONS (ERQ)
SET 6
Name :…….
Form :……
Teacher:…….

1. Find the area of the triangle with vertices $P(-5, 6k)$, $Q(7, 9)$ and $R(4k, -4)$ in terms of k. [3 marks]

2. A point T divides the line segment joining the points $A(8, 10)$ and $B(7, -3)$ internally in the ratio 2 : 6.
Find the coordinates of point T. [3 marks]

3. Given that the lines $8x + 6ky - 9 = 0$ and $6x + y = 1$ are parallel, find the value of k. [3 marks]

4. Find the area of the triangle with vertices $P(-6, 8k)$, $Q(7, 6)$ and $R(9k, -1)$ in terms of k. [3 marks]

5. Given that the lines $10x + 7ky - 6 = 0$ and $9x + y = 9$ are parallel, find the value of k. [3 marks]

6. Find the coordinates of the point of intersection of the lines $6x + 2y = 14$ and $9x = 53 - 11y$. [4 marks]

7. $M(4, -4)$ is the midpoint of points $P(1, -11)$ and $Q(a, b)$.
Find the values of a and b. [2 marks]

8. $P(-2, 11)$, $Q(9, 3)$, $R(5, -4)$ and $S(-12, -11)$ are the vertices of a quadrilateral.
Find the area of the quadrilateral. [3 marks]

9. $M(-8, -3)$ is the midpoint of points $P(-10, -5)$ and $Q(a, b)$.
Find the values of a and b. [2 marks]

10. Given that points $P(-9, 10)$ and $Q(9, 12)$, find
(a) the distance between points P and Q,
(b) the coordinates of the midpoint of points P and Q. [3 marks]

11. Given that a straight line passing through the points $P(-10, 8)$ and $Q(-3, 8)$, find
(a) the gradient of the straight line,
(b) the equation of the straight line. [4 marks]

12. A point T divides the line segment joining the points $A(-4, -11)$ and $B(-7, -4)$ internally in the ratio 5 : 1.
Find the coordinates of point T. [3 marks]

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13. The line $2x + 4hy - 1 = 0$ is perpendicular to the line $3x + y = -12$.
Find the value of h. [3 marks]

14. Given that a straight line passing through the points $P(4, 2)$ and $Q(9, 57)$, find
(a) the gradient of the straight line,
(b) the equation of the straight line. [4 marks]

15. Find the value of h such that the straight line joining the points $A(0, 12h)$ and $B(-18, 0)$ has a gradient of 6. [2 marks]

16. $P(-5, 5)$, $Q(6, 9)$, $R(11, -11)$ and $S(-3, -3)$ are the vertices of a quadrilateral.
Find the area of the quadrilateral. [3 marks]

17. The line $3x + 2hy - 15 = 0$ is perpendicular to the line $4x + y = -7$.
Find the value of h. [3 marks]

18. Given that points $P(-11, -3)$ and $Q(-9, -11)$, find
(a) the distance between points P and Q,
(b) the coordinates of the midpoint of points P and Q. [3 marks]

19. Find the value of h such that the straight line joining the points $A(0, 25h)$ and $B(-5, 0)$ has a gradient of 20. [2 marks]

20. Find the equation of the locus of point Q which moves such that its distance from point $P(8, 2)$ is always 12 units. [4 marks]

Answers:

1. $12k^2 - 39k - 46.5$ unit^2
2. (7.75, 6.75)
3. $\frac{2}{9}$
4. $36k^2 - 55k - 24.5$ unit^2
5. $\frac{10}{63}$
6. (1, 4)
7. $a = 7$, $b = 3$
8. 206.5 unit^2
9. $a = -6$, $b = -1$
10. (a) $\sqrt{328}$ units
    (b) (0, 11)
11. (a) 0
    (b) $y = 8$

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12. (-6.50, -5.17)
13. $\frac{-3}{2}$
14. (a) 11
    (b) $y = 11x - 42$
15. $h = 9$
16. 168.0 unit^2
17. -6
18. (a) $\sqrt{68}$ units
    (b) (-10, -7)
19. $h = 4$
20. $x^2 + y^2 - 16x - 4y - 76 = 0$