

Higher Ink Exercise
Block 1 - Straight Line

Calculators should only be used when necessary

1. (a) Find the equation of the straight line through the points A(-1, 5) and B(3, 1). (2)

(b) Find the size of the angle which AB makes with the positive direction of the x -axis. (2)

2. Find the equation of the line through the point (3, -5) which is parallel to the line with equation $3x + 2y - 5 = 0$. (3)

3. Prove that the points R(-2, 12), S(1, -3) and T(5, -23) are collinear. (3)

4. Find the equation of the line through the point (2, 3) which is perpendicular to the line with equation $x - 4y + 7 = 0$. (4)

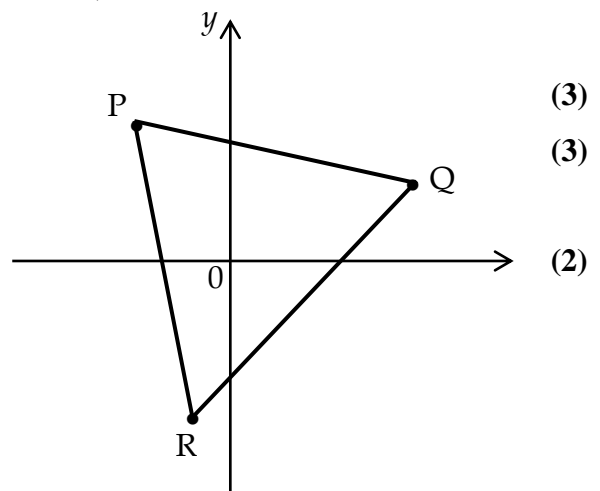
5. Find the equation of the perpendicular bisector of the line joining A(2, -1) and B(8, 3). (4)

6. Triangle PQR has vertices P(-3, 5), Q(7, 3) and R(-1, -5), as shown.

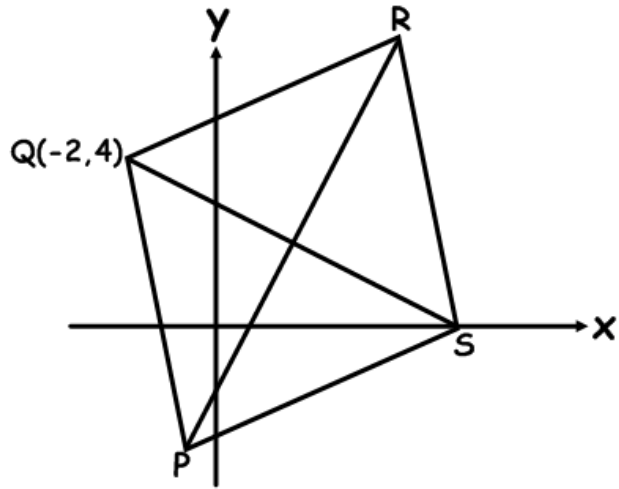
(a) Find the equation of the median RM. (3)

(b) Find the equation of the altitude PA. (3)

(c) Find the coordinates of the point of intersection of RM and PA. (2)



7. The diagram shows a rhombus PQRS with its diagonals PR and QS. PR has equation $y = 2x - 2$ and Q has coordinates $(-2, 4)$.



- (a) Find the equation of the diagonal QS. (3)
- (b) Find the coordinates of T, the point of intersection of PR and QS. (2)
- (c) R is the point $(5, 8)$. Write down the coordinates of P. (1)

TOTAL = 32 MARKS