

EQUATIONS OF LINES

KCSE QUICK REVISION

*Compilation of Possible Questions in Mathematics Likely to be examined in
KCSE.*

*A Special Analysis of Prediction Questions that may be Tested in KCSE from this
Topic in Form 2.*

MATHEMATICS

SERIES 1

For Marking Schemes

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MWALIMU CONSULTANCY

EQUATIONS OF LINES

1. The coordinates of the points P and Q are (1, -2) and (4, 10) respectively.

A point T divides the line PQ in the ratio 2: 1

(a) Determine the coordinates of T

(b) (i) Find the gradient of a line perpendicular to PQ

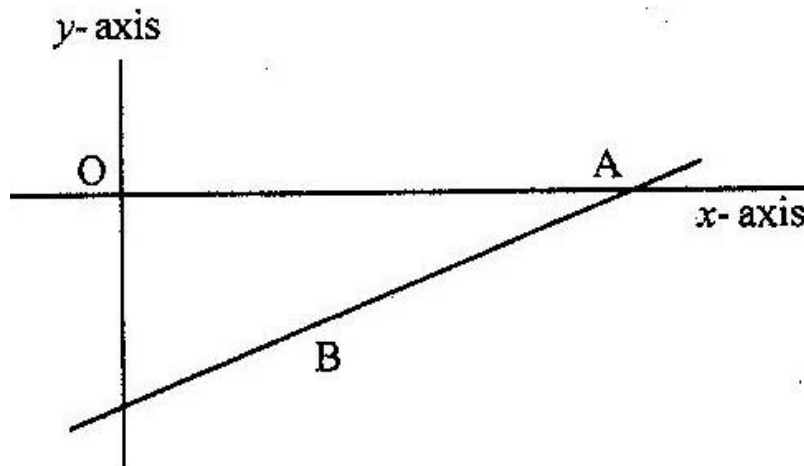
(ii) Hence determine the equation of the line perpendicular PQ and passing through T

(iii) If the line meets the y- axis at R, calculate the distance TR, to three significant figures

2. A line L_1 passes through point (1, 2) and has a gradient of 5. Another line L_2 , is perpendicular to L_1 and meets it at a point where $x = 4$. Find the equation for L_2 in the form of $y = mx + c$

3. P (5, -4) and Q (-1, 2) are points on a straight line. Find the equation of the perpendicular bisector of PQ: giving the answer in the form $y = mx + c$.

4. On the diagram below, the line whose equation is $7y - 3x + 30 = 0$ passes through the points A and B. Point A on the x-axis while point B is equidistant from x and y axes.



Calculate the co-ordinates of the points A and B

5. A line with gradient of -3 passes through the points (3, k) and (k, 8). Find the value of k and hence express the equation of the line in the form $ax + by = c$, where a, b, and c are constants.

6. Find the equation of a straight line which is equidistant from the points (2, 3) and (6, 1), expressing it in the form $ax + by = c$ where a, b and c are constants.
7. The equation of a line $-\frac{3}{5}x + 3y = 6$. Find the:
(a) Gradient of the line (1 mk)
(b) Equation of a line passing through point (1, 2) and perpendicular to the given line
8. Find the equation of the perpendicular to the line $x + 2y = 4$ and passes through point (2,1)
9. Find the equation of the line which passes through the points P (3,7) and Q (6,1)
10. Find the equation of the line whose x- intercepts is -2 and y- intercepts is 5
11. Find the gradient and y- intercept of the line whose equation is $4x - 3y - 9 = 0$

For Marking Schemes/Answers

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