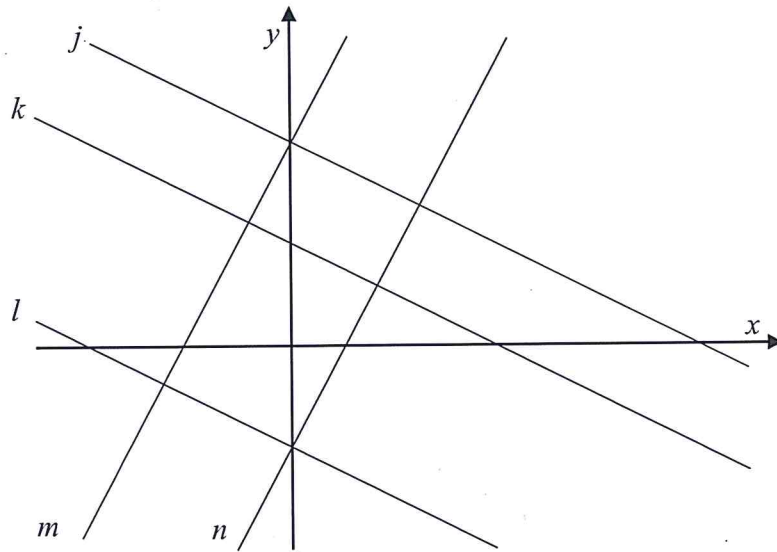


LCH 2011 Paper 2, Q3

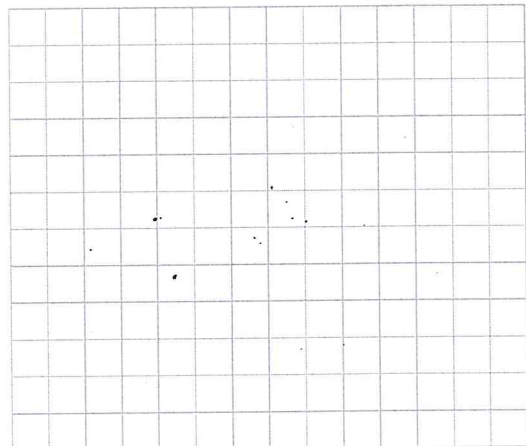
Question 3

(25 marks)

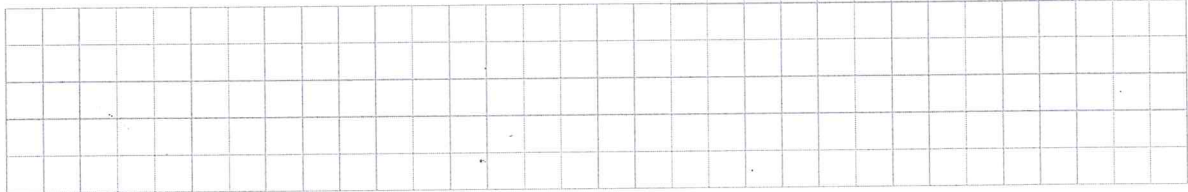
In the co-ordinate diagram shown, the lines j , k , and l are parallel, and so are the lines m and n . The equations of four of the five lines are given in the table below.



Equation	Line
$x + 2y = -4$	
$2x - y = -4$	
$x + 2y = 8$	
$2x - y = 2$	

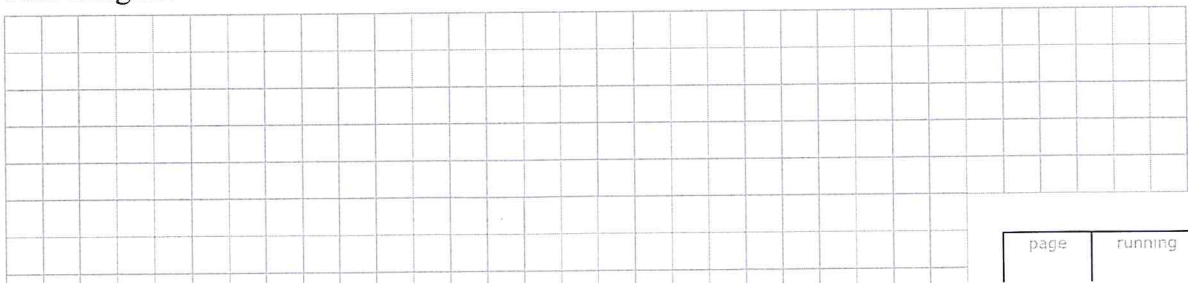


- (a) Complete the table, by matching four of the lines to their equations.



- (b) Hence, insert scales on the x -axis and y -axis.

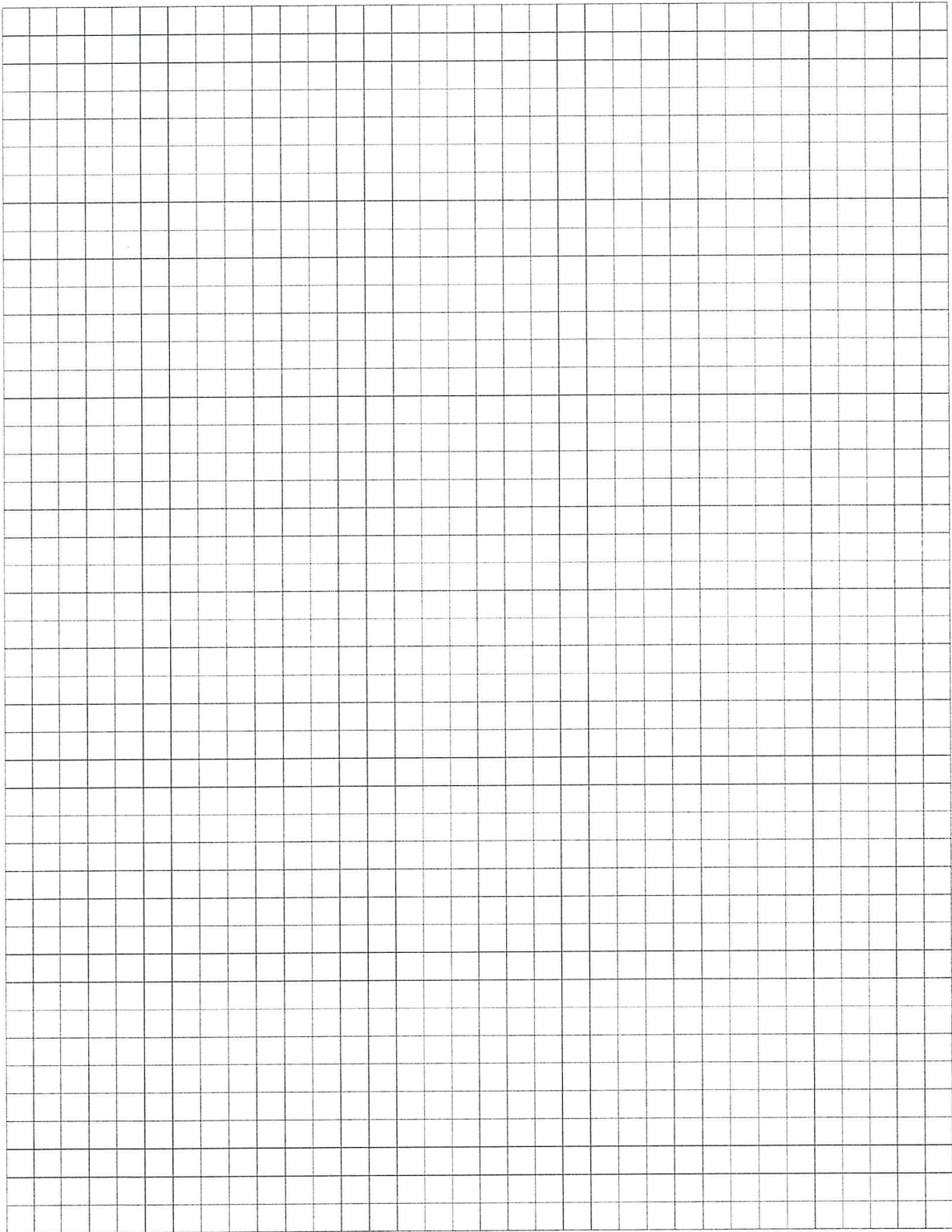
- (c) Hence, find the equation of the remaining line, given that its x -intercept and y -intercept are both integers.



Question 5

(25 marks)

The line $x + 3y = 20$ intersects the circle $x^2 + y^2 - 6x - 8y = 0$ at the points P and Q .
Find the equation of the circle that has $[PQ]$ as diameter.



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