

LCH 2012 Paper 2, Q2

Question 2

(25 marks)

The equations of two circles are:

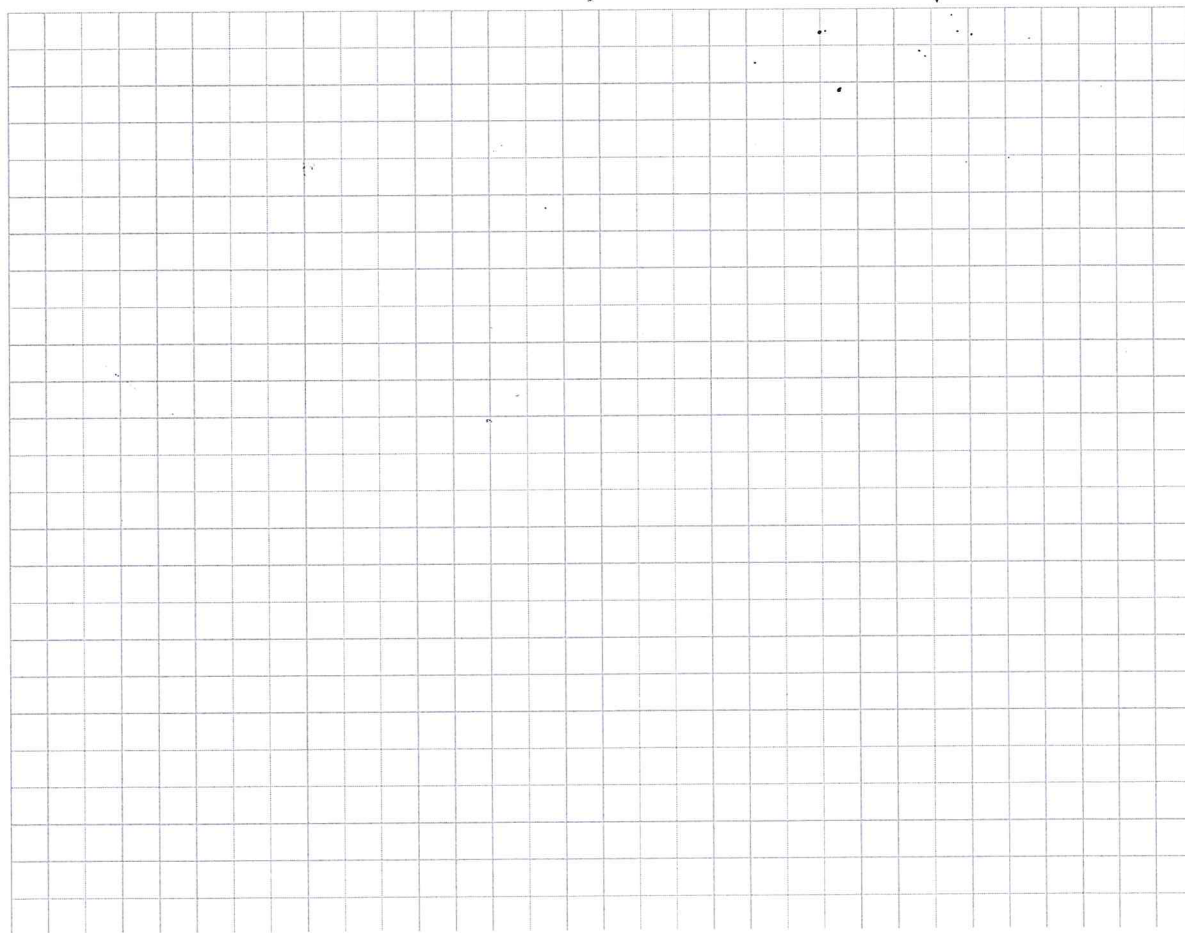
$$c_1 : x^2 + y^2 - 6x - 10y + 29 = 0$$

$$c_2 : x^2 + y^2 - 2x - 2y - 43 = 0$$

(a) Write down the centre and radius-length of each circle.

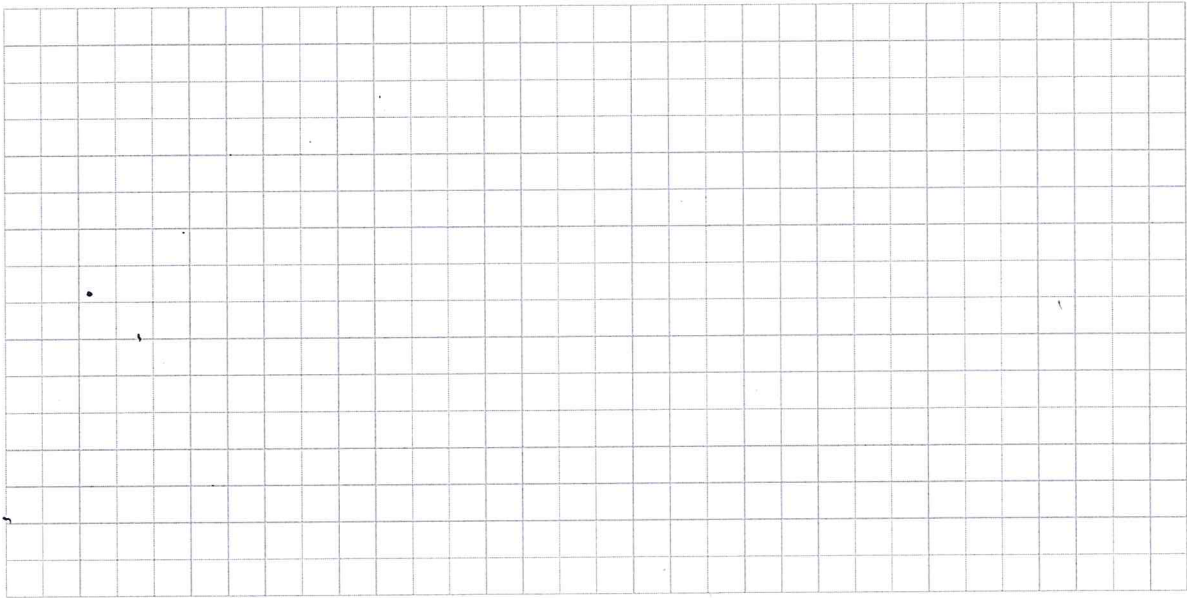
centre of c_1 : _____	centre of c_2 : _____
radius-length of c_1 : _____	radius-length of c_2 : _____

(b) Prove that the circles are touching.



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(c) Verify that $(4, 7)$ is the point that they have in common.



(d) Find the equation of the common tangent.

