14. The circle C_1 has equation

$$x^2 + y^2 - 6x + 14y + 33 = 0$$

(a) Find

(i) the coordinates of the centre of C_1

(ii) the radius of C_1

(3)

A different circle C_2

- has centre with coordinates (–6, –8)
- has radius k, where k is a constant

Given that C_1 and C_2 intersect at 2 distinct points,

(b) find the range of values of k, writing your answer in set notation.

(5)