

11. Circle  $C_1$  has equation  $(x-4)^2 + (y+2)^2 = 37$ .  
Circle  $C_2$  has equation  $x^2 + y^2 + 2x - 6y - 7 = 0$ .

- (a) Calculate the distance between the centres of  $C_1$  and  $C_2$ . **3**
- (b) Hence, show that  $C_1$  and  $C_2$  intersect at two distinct points. **3**