

8 A circle has equation $(x-2)^2 + (y+3)^2 = 25$.

(a) Write down

- the radius of the circle,
- the coordinates of the centre of the circle.

[2]

(b) Find, in exact form, the coordinates of the points of intersection of the circle with the y -axis.

[3]

(c) Show that the point $(1, 2)$ lies outside the circle.

[2]

(d) The point $P(-1, 1)$ lies on the circle. Find the equation of the tangent to the circle at P .

[4]