

Question

(30 marks)

- (a)** A circle has centre $(-1, 5)$ and passes through the point $(1, 2)$.
Find the equation of the circle.

- (b)** The y -axis is a tangent to the circle $x^2 + y^2 + 2gx + 2fy + c = 0$.
(i) Prove that $f^2 = c$.

- (ii)** Find the equations of the circles that pass through the points $(-3, 6)$ and $(-6, 3)$ and have the y -axis as a tangent.