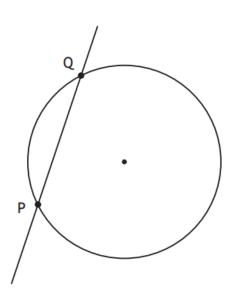
Higher Maths SQA 2022 Paper 2 Question 9



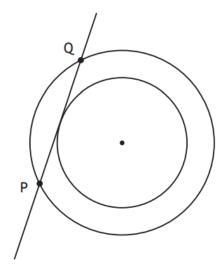
The line y = 3x + 7 intersects the circle $x^2 + y^2 - 4x - 6y - 7 = 0$ at the points P and Q.



(a) Find the coordinates of P and Q.

PQ is a tangent to a second, smaller circle.

This circle is concentric with the first.



(b) Determine the equation of the smaller circle.

4

5

Answers:

(a) P(-2,1) Q(0,7)

(b) $(x-2)^2 + (y-3)^2 = 10$

This resource is free to distribute and use on a non-commercial basis. Visit Maths.scot for notes and worked examples for every Higher Maths topic.