Higher Maths
SQA 2022 Paper 2
Question 9
Higher Maths
Maths.scot

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

(a) Find the coordinates of P and Q .
$P Q$ is a tangent to a second, smaller circle.
This circle is concentric with the first.

(b) Determine the equation of the smaller circle.

Answers:
(a) $\quad \mathrm{P}(-2,1) \quad \mathrm{Q}(0,7)$
(b) $(x-2)^{2}+(y-3)^{2}=10$

