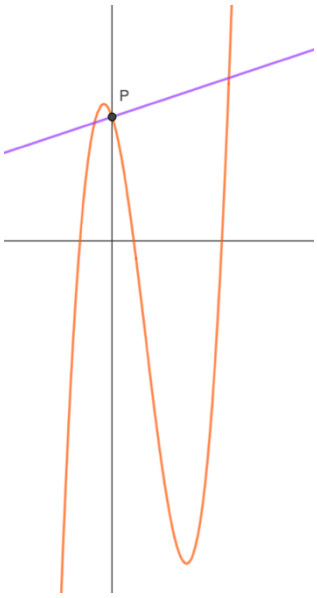
Higher Maths question bank :: Paper 1

09. Intersections and tangents to curves

1. Curve $f(x) = x^3 - 4x^2 - 3x + 5$ is shown

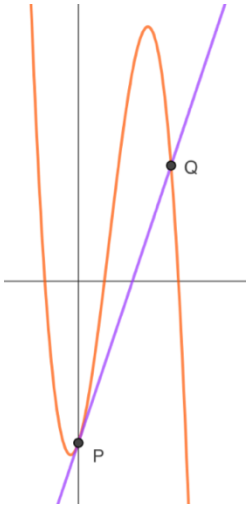


a) f crosses the y-axis at point P.
Find the coordinates of P.

b) Find the gradient of the tangent of f at P.

c) Find the equation of the line perpendicular to the tangent at P.

2. Curve $g(x) = -x^3 + 4x^2 + 3x - 7$ is shown.



a) Find the point P, where g crosses the y-axis.

b) Find the equation of the tangent line at P.

c) Find the coordinates of point Q, where the tangent line intersects g again.