

12 The equation of a curve is

$$(x + y)^2 = 4y + 2x + 8$$

The curve intersects the positive x -axis at the point P .

12 (a) Show that the gradient of the curve at P is $-\frac{3}{2}$

[6 marks]

12 (b) Find the equation of the normal to the curve at P , giving your answer in the form $ax + by = c$, where a , b and c are integers.

[2 marks]