

8 A curve has equation

$$y = x^3 + px^2 + qx - 45$$

The curve passes through point  $R$  (2, 3)

The gradient of the curve at  $R$  is 8

8 (a) Find the value of  $p$  and the value of  $q$ .

**[5 marks]**

8 (b) Calculate the area enclosed between the normal to the curve at  $R$  and the coordinate axes.

**[5 marks]**