

$$m = \frac{8}{7} \text{ is}$$

$$2) y - 14 = -8x + 8$$

$$3) 7y + 8x - 14 - 8 = 0$$

$7y + 8x - 22 = 0$ is the equation of the tangent

b) Equation of the normal

$$y - y_1 = -\frac{1}{m}(x - x_1)$$

$$y - 2 = -\frac{1}{\frac{8}{7}}(x - 1)$$

$$y - 2 = -\frac{7}{8}(x - 1)$$

cross multiply

$$8(y - 2) = 7(x - 1)$$

$$8y - 16 = 7x - 7$$

$$8y - 7x - 16 + 7 = 0$$

$8y - 7x - 9 = 0$ is the equation of the normal