

$$8. 3x^2 - y = -7 + y^3 \quad (1, 2)$$

$$\textcircled{1} \frac{d}{dx}(3x^2) + \frac{d}{dx}(-y) = \frac{d}{dx}(-7) + \frac{d}{dx}(y^3)$$

$$6x - 1 \cdot y' = 0 + 3y^2 y'$$

$$6x - y' = 3y^2 y'$$

$$6x = 3y^2 y' + y'$$

$$6x = y'(3y^2 + 1)$$

$$\frac{6x}{3y^2 + 1} = \frac{y'(3y^2 + 1)}{3y^2 + 1}$$

$$\frac{6x}{3y^2 + 1} = y' \quad \left(\begin{matrix} 1 \\ x, y \end{matrix} \right)$$

$$\textcircled{2} m = \frac{6(1)}{3(2)^2 + 1}$$

$$m = \frac{6}{13}$$

$$\textcircled{3} y = mx + b$$

$$2 = \frac{6}{13}(1) + b$$

$$2 = \frac{6}{13} + b$$

$$2 - \frac{6}{13} = b$$

$$\frac{20}{13} = b$$

$$\textcircled{4} y = mx + b$$

$$y = \frac{6}{13}x + \frac{20}{13}$$