

3.

$$y = \frac{9x^2 + 54x}{(x + 6)^2}, \quad x \neq -6$$

(a) Show that $\frac{dy}{dx} = \frac{A}{(x + 6)^n}$, where A and n are constants to be found.

(4)

(b) Given $x \neq -6$, explain why $\frac{dy}{dx} > 0$.

(1)

(Total for Question 3 is 5 marks)