Question 1 (7 marks)

Find $\frac{dy}{dx}$ for each of the following functions. There is no need to simplify your answers.

(a) $y = 7x^2 + e^{x^2+3x}$

(2 marks)

(b) $y = 3\left(x + \sqrt{x}\right)^5$

(2 marks)

(c) $y = \frac{\cos\left(2x+9\right)}{x^2}$

(3 marks)