**Question 1** (8 marks)

For the functions below, determine $\frac{dy}{dx}$. You do not need to simplify your answers.

(a) $y = 5 + 4\sqrt{x} - \frac{10}{x^3}$.

(2 marks)

(b) $y = \frac{e^{0.5x}}{0.7x + e^x}$.

(3 marks)

(c) $y = \ln\left(x^2\sqrt{1-4x}\right)$.

(3 marks)