Question 1 (9 marks)

(a) For each of the functions below, determine f'(x). You do not need to simplify your answers.



(2 marks)

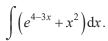
(ii)
$$f(x) = 3\ln(8x+1) + 9\sqrt{x}$$
.

(2 marks)

(iii)
$$f(x) = \frac{11-5x}{1+\cos x}$$
.

(3 marks)

(b) Determine the following integral:





(2 marks)