

Question 6**(7 marks)**

(a) Evaluate $\int_0^1 \frac{-12x}{1+3x^2} dx$.

(3 marks)

(b) Given $f(x) = \ln(2 - x^3)$

(i) determine $f'(1)$.

(3 marks)

- (ii) In relation to the graph of $f(x)$, explain the meaning of your answer to (b)(i).
(1 mark)