



Ross High School: Mathematics Department

Higher Mathematics: Homework 15

1. Find $\frac{dy}{dx}$ where $y = \frac{2x^4 - 3x^2 + 5}{\sqrt{x}}$ (3)

2. A function f is defined by the formula $f(x) = 3x - x^3$.
 - a) Find the exact values where the graph of $y = f(x)$ meets the x and y axes. (2)
 - b) Find the coordinates of the stationary points of the function and determine their nature. (7)
 - c) Sketch the graph of $y = f(x)$. (2)

3. For what values of x is $f(x) = x^3 - 12x + 2$ decreasing? (4)