



Ross High School: Mathematics Department

Higher Mathematics: Homework 14

1. Find $\frac{dy}{dx}$ in each of the following

(a) $y = \frac{4x^3 - 3}{2x}$ (b) $y = x^2(x^2 - 1)$ (4)

2. Given that $f(x) = x^3 - 4x + 7$, find $f'(-2)$ (3)

3. If $v = 10t^2$ and the rate of change of t is 160, find the value of t . (3)

4. Find the equation of the tangent to the curve with equation $y = 3x^2 - 2x$ at the point where $x = 2$. (5)

5. The gradient of the tangent at A to the curve $y = -3x^2 - 4x + 1$ is 2. Find the coordinates of A. (3)