



Ross High School: Mathematics Department

Higher Mathematics: Homework 17

1. Integrate, expressing all answers with positive powers:

a) $\int x^9 dx$

b) $\int t^{-5} dt$

c) $\int \frac{-2}{u^3} du$

6

2. A curve for which $\frac{dy}{dx} = 3x^2 + 1$ passes through the point $(-1, 2)$
Express y in terms of x .

4

3. Integrate, expressing all answers with positive powers:

a) $\int \frac{3x+1}{\sqrt{x}} dx$

b) $\int \frac{u^2+2}{2u} du$

6

4. Find the equation of the tangent at the point $(3, 4)$ on the circle with equation
 $x^2 + y^2 + 2x - 4y - 15 = 0$

4