

## MCS22 Homework 40

Evaluate each definite integral.

1.  $\int_0^1 2x(x^2 + 1)^2 dx$

2.  $\int_2^3 x\sqrt{x^2 + 1} dx$

3.  $\int_{-1}^0 x^3(1 - 2x^4)^3 dx$

4.  $\int_0^{\frac{\pi}{2}} \sin^2 x \cos x dx$

5.  $\int_{-3}^0 (x^2 + 2x - 2) dx$

6.  $\int_1^4 e^{8x} dx$

7.  $\int_0^2 (-3x + 4)e^{-3x^2 + 8x} dx$

8.  $\int_0^1 \frac{x + 1}{x^2 + 2x + 3} dx$