

# Calculus Honors - M7H

## Indefinite Integrals - Homework 1

Evaluate the following integrals:

1.  $\int x^5 dx$

11.  $\int (4x - 6)\sqrt{2x^2 - 6x + 1} dx$

2.  $\int (3x^2 - 4x + 6) dx$

12.  $\int \frac{x}{x^2 + 9} dx$

3.  $\int (5x^4 - 2x^3 + x - 9) dx$

13.  $\int 6x(3x^2 - 1)^5 dx$

4.  $\int \left( \frac{6}{x^2} + 4\sqrt{x} \right) dx$

14.  $\int \frac{2x + 1}{x^2 + x + 4} dx$

5.  $\int (2x^{-3} - 5x^{-1/2}) dx$

15.  $\int 5(5x - 2)^7 dx$

6.  $\int \left( \frac{3}{x} + 2e^x \right) dx$

16.  $\int \sin(3x) dx$

7.  $\int (4 \cos x - 3 \sin x) dx$

17.  $\int xe^x dx$

8.  $\int (5e^x - 3 \cos x + 2 \sin x) dx$

18.  $\int x \cos x dx$

9.  $\int 2x(x^2 + 5)^4 dx$

19.  $\int x \ln x dx$

10.  $\int \frac{3x^2}{x^3 + 1} dx$

20.  $\int x^2 e^x dx$