

Math 141: Calculus II

Name _____

Spring 2018

Gateway # 1

You should carry out all integration steps but do not need to simplify your answers.
There is no partial credit on this test. No calculators permitted. If you use scratch paper,
please turn it in with your test.

Please evaluate the following integrals.

1.

$$\int 3x^5 - x^2 + \sqrt{3} - 4x^{-3} dx$$

2.

$$\int (x^5) \left(\sqrt[3]{x^6 + 1} \right) dx$$

3.

$$\int x e^x dx$$

4.

$$\int \frac{5x - 2}{(x + 4)(3x + 1)} dx$$

5.

$$\int \frac{1}{\sqrt{49 - x^2}} dx$$

6.

$$\int \frac{6x^2 + 2x + 8}{(x^2 + 2)(x + 1)} dx$$

7.

$$\int_0^1 x^2 + 7x - 3 \, dx$$

8.

$$\int x^4 \sin x \, dx$$

9.

$$\int_1^{\infty} \frac{1}{\sqrt{x+2}} \, dx$$

10.

$$\int_3^7 \frac{1}{x-3} \, dx$$