

Name: _____

Basic Integration Techniques

Exercise 1: Find a formula of the form $F(x)+C$ for each of the indefinite integrals indicated.

1) $\int (x^2 + x + 1)dx$

2) $\int \frac{x^4}{2}dx$

3) $\int \sqrt{x}dx$

4) $\int \frac{3}{\sqrt{x}}dx$

5) $\int \frac{x^3 - x^{-3}}{3}dx$

6) $\int x^{7/3}$

7) $\int [\sin^2(x) + \cos^2(x)]dx$

8) $\int \frac{1}{4 + 4x^2}dx$

9) $\int (e^x - 5x^2)dx$

10) $\int (x - \sec x \tan x)dx$

11) $\int x(1 + 2x^4) dx$

12) $\int \left[\frac{\sin 2u}{\sin u} - \frac{1}{\sqrt{u}} \right] du$