

## 7.1-7.2 Practice: Integrals and Anti-Derivatives

Watch out!! U-substitution will work on some of these. Others just need to be simplified/rearranged with basic algebra, and then they will have an easy anti-derivative.

1.  $\int \frac{1}{x^6} dx$

2.  $\int x^{\frac{4}{7}} dx$

3.  $\int \frac{5}{\sqrt[3]{x}} dx$

4.  $\int (1-t)^2 dt$

5.  $\int r(r+3)^2 dr$

6.  $\int \frac{x^5 + 3x + 4}{x} dx$

7.  $\int \frac{x^3 + 5}{x^2} dx$

8.  $\int 5x^4 (2x^5 + 70)^{10} dx$

$$9. \int \frac{\sqrt{\ln x}}{x} dx$$

$$10. \int \sin x \cdot e^{\cos x} dx$$

$$11. \int \frac{5}{\sqrt{5t}} dt$$

$$12. \int \tan t \sec^2 t dt$$

Evaluate each integral.

$$13. \int_0^{\pi} (1 + \cos 5t)^2 \sin 5t dt$$

$$14. \int_0^1 (8x^2 - x + 1)^{-\frac{1}{3}} (48x - 3) dx$$