

Name: \_\_\_\_\_

Integrate the following.

1.  $\int 5 - 6x \, dx$

2.  $\int 2x^3 - 6x + 7 \, dx$

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

4.  $\int -5 \sin(x) \, dx$

5.  $\int \left( \frac{1}{x} - \frac{5}{x^2 + 1} \right) \, dx$

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

Use  $u$ -substitution to integrate the following.

1.  $\int x e^{x^2} dx$

2.  $\int 3x \sqrt{7 - 3x^2} dx$

3.  $\int x \sqrt{5x + 2} dx$

4.  $\int \frac{1}{\sqrt{5x + 9}} dx$

5.  $\int x \sin(x^2) dx$

6.  $\int \frac{dx}{x \ln(x)}$