

Notes 2.2 **Integration by Substitution**

Use the suggested substitution to find the following indefinite integrals.

1. $\int (x - 5)^3 dx$ $u = x - 5$

2. $\int (3x + 1)^4 dx$ $u = 3x + 1$

3. $\int \frac{1}{(2x+3)^2} dx$ $u = 2x + 3$

4. $\int \frac{1}{7-x} dx$ $u = 7 - x$

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

6. $\int x\sqrt{4 - x^2} dx$ $u = 4 - x^2$