5.5 Integration by Substitution

Name: Date: July 6, 2015

P 6. Find the indefinite integral and check the result by differentiation.

$$\int 2x(x^2 - 9)^3 \, dx$$

P 12. Find the indefinite integral and check the result by differentiation.

$$\int x(5x^2 + 4)^3 \, dx$$

P 18. Find the indefinite integral and check the result by differentiation.

$$\int \frac{x^3}{(1+x^4)^2}\,dx$$

P 34. Find the indefinite integral and check the result by differentiation.

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

P 40. Find the indefinite integral and check the result by differentiation.

$$\int \sqrt{\tan x}\sec^2 x\, dx$$

P 48. Find the indefinite integral and check the result by differentiation.

$$\int \frac{e^{2x} + 2e^x + 1}{e^x}\, dx$$

P 54. Find the indefinite integral and check the result by differentiation.

$$\int (3-x)7^{(3-x)^2}\,dx$$

P 62. Find the indefinite integral and check the result by differentiation.

$$\int x\sqrt{3x-4}\,dx$$

P 67. Find the indefinite integral and check the result by differentiation.

$$\int \frac{-x}{(x+1)-\sqrt{x+1}}\,dx$$

P 85. Find the area of the region bounded by the graphs of the equations

$$y = e^x,\ y = 0,\ x = 0,\ \text{and}\ x = 5.$$

Verify your result using a graphing calculator.