Calculus   Worksheet #3   Unit 3   Selected Solutions

Integrate each of the following.

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

7. $\int \sqrt[4]{x}\, dx = \int x^{\frac{1}{4}}\, dx = \frac{4}{5}x^{\frac{5}{4}} + C$

9. $\int -2x(x^2 - 2x + 1)\, dx = \int (-2x^3 + 4x^2 - 2x)\, dx = \frac{-1}{2}x^4 + \frac{4}{3}x^3 - x^2 + C$

Evaluate each of the following. Show all of your work neatly organized.

12. $\int_0^2 5x^4\, dx = x^5 \Big|_0^2 = 2^5 - 0^5 = 32 - 0 = 32$

15. $\int_1^2 (x^2 + x - 1)\, dx = (\frac{1}{3}x^3 + \frac{1}{2}x^2 - x) \Big|_1^2 = (\frac{8}{3} + 2 - 2) - (\frac{1}{3} + \frac{1}{2} - 1) = \frac{8}{3} - \frac{-1}{6} = \frac{17}{6}$