

**Lesson 8.6**

1. Use the method of  $u$ -substitution to evaluate each integral.

(a)  $\int_0^1 3x^2 \sqrt{1+x^3} dx$

(b)  $\int_1^2 \frac{x+1}{3x^2+6x} dx$

(c)  $\int \frac{\sec^2(\ln x)}{x} dx$

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

(e)  $\int \sin^3 x \cos x dx$