

# Calculus AB

4-1

Antiderivatives and Indefinite Integrals

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## Definition of Antiderivative -

## Indefinite Integral -

If  $F(x)$  is the antiderivative of  $f(x)$ , then

Simplify each integral.

$$9) \int \sqrt[3]{x} \, dx$$

$$13) \int \frac{1}{2x^3} \, dx$$

$$19) \int (x^3 + 2) \, dx$$

$$27) \int \frac{x^2 + x + 1}{\sqrt{x}} \, dx$$

$$33) \int dx$$

$$35) \int (2\sin x + 3\cos x) dx$$

Assignment:  
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