

Advanced Antiderivatives + Slope Fields

Evaluate each indefinite integral.

1) $\int 6x^2 \sqrt[3]{x^3 - 5} \, dx$

2) $\int 60x^3 \sqrt[3]{5x^4 - 4} \, dx$

3) $\int 12 \cos 4x \sqrt{\sin 4x} \, dx$

4) $\int 15 \sec 5x \cdot \tan 5x \sqrt[3]{\sec 5x} \, dx$

5) $\int \frac{36x^2}{3x^3 + 5} \, dx$

6) $\int -\frac{6 \cdot \sec^2 3x}{\tan 3x} \, dx$

7) $\int -9x^2 \cot(3x^3 - 1) \, dx$

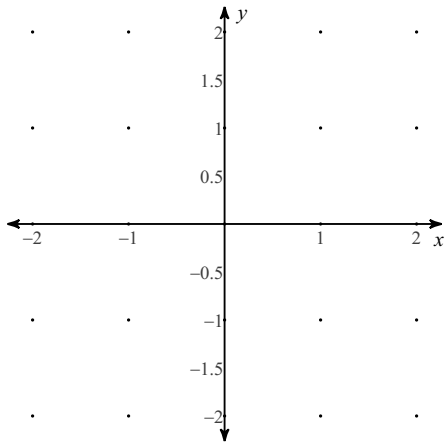
8) $\int 30x^4 \csc(3x^5 + 2) \, dx$

9) $\int \frac{15x^4}{\sqrt{9 - 9x^{10}}} \, dx$

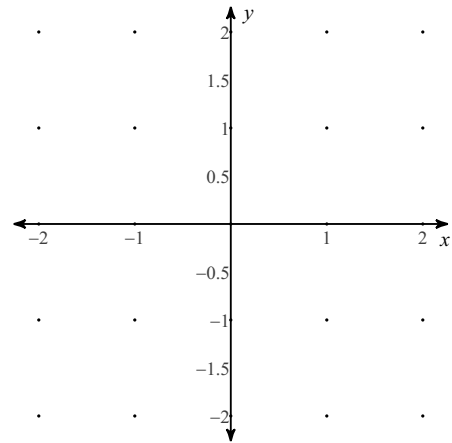
10) $\int \frac{20x^3}{9 + 25x^8} \, dx$

Sketch the slope field for each differential equation.

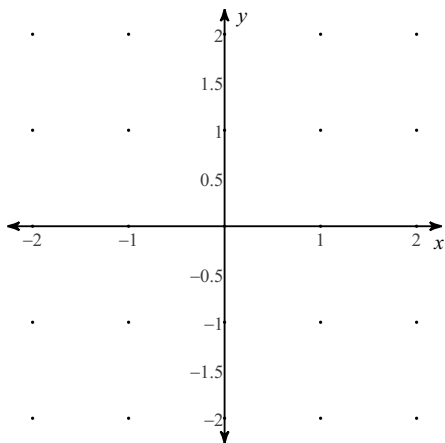
11) $\frac{dy}{dx} = xy$



12) $\frac{dy}{dx} = x + y$



13) $\frac{dy}{dx} = x - y$



14) $\frac{dy}{dx} = -\frac{x}{y}$

