

Procedure:

1. Use differentials to get like variables on the same side.
2. Find the antiderivative of each side.
3. Put into y – form if possible.

Examples:

1. $\frac{dy}{dx} = \frac{-2x}{y^2}$

2. $\frac{dy}{dx} = 6xy^3$

3. Find the antiderivative whose graph goes through (1,4) if $y' = \sqrt{\frac{x}{y}}$.

Unit 5 Worksheet 5

Calculus 1

Find the antiderivative.

1. $\frac{dy}{dx} = \frac{8x^3}{3y^2}$

2. $\frac{dy}{dx} = xy^3$

3. $y' = \frac{x}{2y}$

4. $y' = \sqrt[3]{\frac{x}{y}}$

5. $y' = x^3 y^2$

Find the antiderivative whose graph goes through the given point.

6. $\frac{dy}{dx} = \frac{4x}{y}$ (3, 0)

7. $\frac{dy}{dx} = 2xy^2$ (3, -1)

8. $\frac{dy}{dx} = \frac{9x^2}{2y}$ (-1, 4)

9. $\frac{dy}{dx} = \sqrt{\frac{x}{y}}$ (1, 1)

10. $\frac{dy}{dx} = 10x^4 y^2$ (-1, 1)