

Millersville University
Department of Mathematics
MATH 161, *Calculus I*, Implicit Differentiation

Examples

Find $\frac{dy}{dx}$ for the following equations.

1. $y = 2 \sin(\pi x - y)$

2. $x + \sin y = xy$

3. $x^3 - xy + y^3 = 1$

4. $x^2 \cos^2 y - \sin y = 0$

5. $x^2 y^2 = 9$

6. $2xy + \pi \sin y = 2\pi$

7. $x^2 y + xy^2 = 6$

8. $x^2 = \frac{x - y}{x + y}$

9. $x \sin 2y = y \cos 2x$

10. $x^2(x - y)^2 = x^2 - y^2$

11. $y^2 - 2x - 4y = 1$