Task card 1 Implicit Differentiation

Find dy/dx for $2x^2 - y^2 = 9$.

Task card 2 Implicit Differentiation

Find the slope of the curve $3x^2 - 4y^2 = 23$ at the point (3, -1).

Task card 3 Implicit Differentiation

Find dy/dx for $y^2 = x^3 - 4x + 3$.

Task card 4 Implicit Differentiation

Find the slope of the curve $x^2y = 18$ at the point (3, 2).

Task card 5 Implicit Differentiation

Find the slope of the circle $x^2 + y^2 = 169$ at the point (-5, -12).

Task card 6 Implicit Differentiation

Find the slope of the curve $5x^2 - 3y^2 = 17$ at the point (-2, 1).

Task card 7 Implicit Differentiation

Find the slope of the curve $9x^2 + 2y^2 = 54$ at the point (2, 3).

Task card 8 Implicit Differentiation

Find the slope of the circle $x^2 + y^2 = 625$ at the point (7, -24).

Task card 9 Implicit Differentiation

Find the slope of the curve $x^2 - 4y^2 = -27$ at the point (-3, -3).

Task card 10 Implicit Differentiation

Find the slope of the curve $y^2 = x^3 - 3x + 2$ at the point (2, -2).

Task card 11 Implicit Differentiation

Find the slope of the curve $x^3 + y^3 = 9$ at the point (1, 2).

Task card 12 Implicit Differentiation

Find the slope of the curve $-x^2 - 3xy = -27$ at the point (-3, -2).

Task card 13 Implicit Differentiation

Find dy/dx for $y^2 = x^3 + x^2 + 5x - 4$.

Task card 14 Implicit Differentiation

Find the slope of the curve $-xy + y^2 = 3$ at the point (-2, -3).

Task card 15 Implicit Differentiation

Find the slope of the curve $-2x^2 - xy - 2y^2 = -8$ at the point (0, -2).

Task card 16 Implicit Differentiation

Find the slope of the curve $x^3 + y^3 = 16$ at the point (2, 2).

Task card 17 Implicit Differentiation

Find the slope of the curve $9x^2 + 2y^2 = 44$ at the point (-2, 2).

Task card 18 Implicit Differentiation

Find the slope of the curve $y^2 = x^3 - 5x + 16$ at the point (0, -4).

Task card 19 Implicit Differentiation

Find the slope of the curve $x^3 + y^3 = 91$ at the point (4, 3).

Task card 20 Implicit Differentiation

Find the slope of the curve $-2x^2 - 2xy - y^2 = -8$ at the point (2, 0).

Task card 21 Implicit Differentiation

Find dy/dx for $x^2 + y^3 = 24$.

Task card 22 Implicit Differentiation

Find the slope of the curve $-xy + 2y^2 = 6$ at the point (-1, -2).

Task card 23 Implicit Differentiation

Find dy/dx for $x^2 + y^3 = 5$.

Task card 24 Implicit Differentiation

Find the slope of the curve $x^3 + y^3 = 128$ at the point (4, 4).

Implicit Differentiation Task Cards

Recording sheet · Grade 12 · Find dy/dx as one fraction in x and y, written like -x/y, -4x/(9y) or $(3x^2 - 2)/(2y)$ with the numbers in lowest terms, or find the slope at the point (a whole number or a fraction in simplest form). Write tangent lines as y = mx + b.

Scan to check your answers

Name: _____ Date: _____

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	20
21	22	23	24

Implicit Differentiation Task Cards: Answer Key

Grade 12 · Medium

The answers online

1. $\frac{2x}{y}$	**2.** $\frac{9}{-4}$	**3.** $\frac{3x^2 - 4}{2y}$
4. $\frac{4}{-3}$	**5.** $\frac{5}{-12}$	**6.** $\frac{10}{-3}$
7. -3	**8.** $\frac{7}{24}$	**9.** $\frac{1}{4}$
10. $\frac{9}{-4}$	**11.** $\frac{1}{-4}$	**12.** $\frac{4}{-3}$
13. $\frac{3x^2 + 2x + 5}{2y}$	**14.** $\frac{3}{4}$	**15.** $\frac{1}{-4}$
16. -1	**17.** $\frac{9}{2}$	**18.** $\frac{5}{8}$
19. $\frac{16}{-9}$	**20.** -2	**21.** $\frac{2x}{-3y^2}$
22. $\frac{2}{7}$	**23.** $\frac{2x}{-3y^2}$	**24.** -1