Task card 1 Implicit Differentiation

Find dy/dx for the circle $x^2 + y^2 = 9$.

Task card 2 Implicit Differentiation

Find the slope of the circle $x^2 + y^2 = 100$ at the point (-8, 6).

Task card 3 Implicit Differentiation

Find dy/dx for $xy = 29$.

Task card 4 Implicit Differentiation

Find the slope of the curve $xy = -5$ at the point (5, -1).

Task card 5 Implicit Differentiation

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

Task card 6 Implicit Differentiation

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

Task card 7 Implicit Differentiation

Find the slope of the circle $x^2 + y^2 = 25$ at the point (4, 3).

Task card 8 Implicit Differentiation

Find dy/dx for $xy = 39$.

Task card 9 Implicit Differentiation

Find the slope of the circle $x^2 + y^2 = 25$ at the point (-3, -4).

Task card 10 Implicit Differentiation

Find dy/dx for $x^2y = 11$.

Task card 11 Implicit Differentiation

Find dy/dx for $9x^2 + 6y^2 = 135$.

Task card 12 Implicit Differentiation

Find the slope of the curve $x^2y = 32$ at the point (-4, 2).

Task card 13 Implicit Differentiation

Find the slope of the circle $x^2 + y^2 = 100$ at the point (-6, 8).

Task card 14 Implicit Differentiation

Find the slope of the circle $x^2 + y^2 = 100$ at the point (8, 6).

Task card 15 Implicit Differentiation

Find the slope of the curve $xy = -10$ at the point (2, -5).

Task card 16 Implicit Differentiation

Find the slope of the circle $x^2 + y^2 = 100$ at the point (-8, -6).

Task card 17 Implicit Differentiation

Find dy/dx for $2x^2 - 6y^2 = 12$.

Task card 18 Implicit Differentiation

Find the slope of the curve $8x^2 - 6y^2 = -46$ at the point (1, -3).

Task card 19 Implicit Differentiation

Find dy/dx for $y^2 = x^3 + 6x - 1$.

Task card 20 Implicit Differentiation

Find the slope of the curve $xy^2 = 25$ at the point $(1, -5)$.

Task card 21 Implicit Differentiation

Find the slope of the circle $x^2 + y^2 = 289$ at the point $(8, -15)$.

Task card 22 Implicit Differentiation

Find the slope of the curve $8x^2 + 4y^2 = 108$ at the point $(-3, -3)$.

Task card 23 Implicit Differentiation

Find the slope of the circle $x^2 + y^2 = 841$ at the point $(20, -21)$.

Task card 24 Implicit Differentiation

Find the slope of the curve $x^2y = -96$ at the point $(-4, -6)$.

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 (3x² - 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 · Easy

The answers online

1. $-\frac{x}{y}$

2. $\frac{4}{3}$

3. $-\frac{y}{x}$

4. $\frac{1}{5}$

5. $-\frac{12}{5}$

6. $-\frac{5}{12}$

7. $-\frac{4}{3}$

8. $-\frac{y}{x}$

9. $-\frac{3}{4}$

10. $-\frac{2y}{x}$

11. $-\frac{3x}{2y}$

12. 1

13. $\frac{3}{4}$

14. $-\frac{4}{3}$

15. $\frac{5}{2}$

16. $-\frac{4}{3}$

17. $\frac{x}{3y}$

18. $-\frac{4}{9}$

19. $\frac{3x^2 + 6}{2y}$

20. $\frac{5}{2}$

21. $\frac{8}{15}$

22. -2

23. $\frac{20}{21}$

24. -3