

FIND THE BINGO (Derivatives: Power formula, Product Rule, Quotient Rule)

Directions: Find the first derivative of each function to the right. Locate the derivative on the BINGO board below. Circle the answer. Keep working problems in any order until you have five circled answers in a line horizontally, vertically, or diagonally.

WHEN YOU FIND THE BINGO, YOUR WORK IS FINISHED!

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|-----------------|-----------------------------|---------------------------------|---------------------------------|--|
| $2x - 2x^{-3}$ | $\frac{19}{3x - 2}$ | $\frac{1}{2} - \frac{1}{2x^2}$ | $-(2 + 2x^3)$ | $8x + 12$ |
| $3(x^2 + 3x)^2$ | $5x^4 - 2x$ | $2x(3x^2)$ | $(x + 1)^{-2}$ | $8x^3 + 16x$ |
| $3x^2 - 8x - 3$ | $2x + x^{-2}$ | $\frac{-4x}{(x^2 - 1)^2}$ | $12x - 7$ | $-\frac{2}{3}\left(\frac{1}{x^2} + \frac{1}{x^3}\right)$ |
| $15(x^2 - x^4)$ | $3x^2 - 6x$ | $\frac{2x(1 - x^2)^{-2}}{-x^2}$ | $\frac{-5}{3x^2}$ | 1 |
| $12x + 13$ | $\frac{-2}{3\sqrt[3]{x^5}}$ | $2x + 1$ | $2\left(x + \frac{1}{x}\right)$ | $\frac{-2}{x^2}$ |

1) $y = \frac{x^2+1}{2x}$

2) $y = (3x - 1)(2x + 5)$

3) $y = \frac{2}{x} + 1$

4) $y = x^3 - 3x^2 + 2$

5) $y = \frac{2x+5}{3x}$

6) $y = (2x^2 + 2)(x^2 + 3)$

7) $y = (x - 2)(x + 3)$

8) $y = \frac{x^2-1}{x-1}$

9) $y = x^3 - 4x^2 - 3x$

10) $y = 5x^3 - 3x^5$

11) $y = (2x + 3)^2$

12) $y = (x + x^{-1})^2$

13) $y = x^2(x^3 - 1)$

14) $y = \frac{2x+1}{3x^2}$

15) $y = \frac{\sqrt[3]{x}}{x}$