

The Product and Quotient Rules

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Find $D_x y$.

1) $y = (6x - 4)(6x + 1)$ 1) _____
A) $72x - 30$ B) $72x - 18$ C) $36x - 18$ D) $72x - 9$

2) $y = (1 - 3x^2)(3x^2 - 36)$ 2) _____
A) $-36x^3 + 222$ B) $9x^3 + 111x$ C) $-36x^4 + 222x^2$ D) $-36x^3 + 222x$

3) $y = (2x^3 + 5)(4x^7 - 8)$ 3) _____
A) $8x^9 + 140x^6 - 48x$ B) $80x^9 + 140x^6 - 48x^2$
C) $80x^9 + 140x^6 - 48x$ D) $8x^9 + 140x^6 - 48x^2$

4) $y = (2x - 5)(5x^3 - x^2 + 1)$ 4) _____
A) $40x^3 - 27x^2 + 81x + 2$ B) $10x^3 + 27x^2 - 81x + 2$
C) $40x^3 - 81x^2 + 10x + 2$ D) $30x^3 + 81x^2 - 27x + 2$

5) $y = (5x - 5)(4x^3 - x^2 + 1)$ 5) _____
A) $80x^3 - 25x^2 + 75x + 5$ B) $20x^3 + 25x^2 - 75x + 5$
C) $80x^3 - 75x^2 + 10x + 5$ D) $60x^3 + 75x^2 - 25x + 5$

6) $y = \frac{x}{6x - 4}$ 6) _____
A) $\frac{12x - 4}{(6x - 4)^2}$ B) $-\frac{4}{6x - 4}$ C) $-\frac{4}{(6x - 4)^2}$ D) $-\frac{4x}{(6x - 4)^2}$

7) $y = \frac{x - 3}{x + 3}$ 7) _____
A) $\frac{2}{x + 3}$ B) $\frac{3}{(x + 3)^2}$ C) $\frac{6}{(x - 3)^2}$ D) $\frac{6}{(x + 3)^2}$

8) $y = \frac{5x - 8}{x^2 - 6x + 4}$ 8) _____
A) $\frac{15x^2 - 76x + 68}{(x^2 - 6x + 4)^2}$ B) $\frac{5x^2 + 16x - 28}{x^2 - 6x + 4}$
C) $\frac{-5x^2 + 16x - 28}{(x^2 - 6x + 4)^2}$ D) $\frac{5x^3 - 40x^2 + 66x - 48}{(x^2 - 6x + 4)^2}$

Answer Key

Testname: THE PRODUCT AND QUOTIENT RULES

- 1) B
- 2) D
- 3) B
- 4) C
- 5) C
- 6) C
- 7) D
- 8) C