

# DERIVADAS

Hallar la derivada de las siguientes funciones:

1.  $f(x) = \frac{3}{2}x^3 + \frac{2}{5}x^2 - \frac{4}{7}x - 5$

23.  $f(x) = \frac{2x^3 - 3x^2 - 2x - 4}{2x^2 - 3x + 6}$

44.  $f(x) = \frac{1 - 3x}{x} + (5x - 2)^3$

2.  $f(x) = x \cdot (x + 2)$

45.  $f(x) = \frac{x^2 - 3x}{2x - 5}$

3.  $f(x) = x^2 \cdot (7 - 2x)$

24.  $f(x) = \frac{2x - 5x^2 + x^3}{(2x - 8) \cdot (3x - 4)}$

46.  $f(x) = 3^{5x^2 - 4x}$

4.  $f(x) = (2x - 5) \cdot (4 - 3x)$

25.  $f(x) = 2\sqrt[5]{x^4 - 1}$

47.  $f(x) = 3^{5x} + e^x$

5.  $f(x) = (-x^4 - 2) \cdot (5x - 7x^2)$

26.  $f(x) = x^2 + \sqrt{x^3 - 2}$

48.  $f(x) = 2x^{-3} - 3x^{-1}$

7.  $f(x) = (1 - 2x + 3x^2 - 4x^3)^5$

27.  $f(x) = \sqrt{2x} + \sqrt[3]{x} - \frac{1}{x}$

49.  $f(x) = (x^2 + 2) \cdot \ln(x^2 + 2)$

8.  $f(x) = \frac{2x + 5}{3}$

28.  $f(x) = \operatorname{sen}(5x - 3)$

50.  $f(x) = \frac{1 - 3x}{x} + (5x - 2)^3$

9.  $f(x) = \frac{2}{x - 3}$

29.  $f(x) = \cos 3^x$

51.  $f(x) = \frac{(3x^5 + 4)^3}{5x^3 - x}$

10.  $f(x) = \frac{4}{x^2}$

31.  $f(x) = \cos(4 - 9x^2)$

52.  $f(x) = \operatorname{sen}(x^2 - 1) + \cos 3x$

11.  $f(x) = \frac{2x - 3}{3 - x}$

32.  $f(x) = \sqrt{\frac{1-x}{1+x}}$

53.  $f(x) = \ln\left(\frac{x}{x-1}\right)$

12.  $f(x) = 6x^5 - 3x^4$

33.  $f(x) = x \cdot \sqrt{3x^2 - 1}$

54.  $f(x) = \sqrt{\operatorname{sen}(3x^4 - 2x)}$

13.  $f(x) = (3 - 4x - 5x^2)^4$

34.  $f(x) = \sqrt[3]{\ln x}$

55.  $f(x) = \frac{1}{\operatorname{sen} 3x}$

14.  $f(x) = \frac{x^8}{9} - \frac{x^5}{3}$

35.  $f(x) = \operatorname{sen} \frac{3}{x^2}$

56.  $f(x) = (\cos 2x)^3 - e^{2x-1}$

15.  $f(x) = (x^2 - 1)^3 \cdot (2x^2 - 3x + 2)^3$

36.  $f(x) = \sqrt[4]{2^x}$

57.  $f(x) = \frac{e^{x-1}}{\operatorname{sen} x}$

16.  $f(x) = \frac{x^2 + 5}{x^2 + 6}$

37.  $f(x) = \cos \sqrt[5]{3x}$

58.  $f(x) = \sqrt[3]{\ln(x^2 - 1)}$

17.  $f(x) = \frac{x^4 - 3x^2 + 7x}{2x + 5}$

38.  $f(x) = \ln(x^2 + 7)$

59.  $f(x) = \sqrt[3]{2x - 1}$

18.  $f(x) = \frac{(2x+3)^3}{(3x^2 - 2x + 6)^2}$

39.  $f(x) = \frac{x^2 + 1}{x^2 - 1}$

60.  $f(x) = \frac{2 + 3x}{1 + \sqrt{x}}$

19.  $f(x) = \sqrt{x}$

40.  $f(x) = x \cdot e^x$

61.  $f(x) = \frac{e^x - 1}{e^x + 1}$

20.  $f(x) = \frac{1+x}{1-x}$

41.  $f(x) = \ln\left(\frac{2 - 5x^2}{4}\right)$

62.  $f(x) = (3x - 1) \cdot 2^{x-1}$

21.  $f(x) = \sqrt[4]{x - 5}$

42.  $f(x) = \sqrt[3]{x^5}$

63.  $f(x) = \log_2(x^3 - 2x + 1)$

22.  $f(x) = \sqrt{3x} - \sqrt{3-x}$

43.  $f(x) = e^{(3x^4 - 5x)^2}$

64.  $f(x) = \log \frac{x}{x-1}$

