

Calcular la derivada de las siguientes funciones.

1.  $f(x) = (x^2 + 2)(x^3 + 1)$

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

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

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

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

6.  $f(x) = \frac{2x-1}{x-1}$

7.  $f(x) = (1 - x)^2$

8.  $f(x) = (5x^2 - 3\sqrt{x})^5$

9.  $f(x) = \sqrt[5]{(2x^2 - 3x + 1)^3}$

10.  $f(x) = \frac{(2x-5)^7}{2x}$

11.  $f(x) = L\left(\frac{e^x+1}{e^x-1}\right)$

12.  $f(x) = L\sqrt{x(1-x)}$

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

14.  $f(x) = \frac{e^x + e^{-x}}{2}$

15.  $f(x) = 3^{2x^2} \cdot \sqrt{x}$

16.  $f(x) = \sqrt[4]{x^5 - x^3 - 2}$

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

18.  $f(x) = 10^{\sqrt{x}}$

19.  $f(x) = \text{sen}(3x - 1)$

20.  $f(x) = \cos 2x^7$

21.  $f(x) = \text{tg}^3 \sqrt{x}$

22.  $f(x) = \sec(1 - 2x - x^3)$

23.  $f(x) = \text{sen} 5x + \cos 5x$

$f(x) = \text{ctg} \sqrt{x} - \text{csc} \sqrt[3]{x}$

24.  $f(x) = \text{tg}^5 x^5$

25.  $f(x) = \sqrt{\text{sen}^2 2x}$

26.  $f(x) = \frac{2x-1}{\text{tg} 5x}$

27.  $f(x) = \cos(\text{tg} 3x)$

28.  $f(x) = \text{arc sen}(2x - 1)$

29.  $f(x) = \text{arc cos}(x^2 + 3)$

30.  $f(x) = \text{arc tg}(1 + x + x^2)$

31.  $f(x) = \text{arc tg}(3x^2 - 1)$

32.  $f(x) = \text{arc}$

33.  $f(x) = \text{arc sen} \sqrt[3]{x}$

34.  $f(x) = \text{arc tg} \sqrt{x}$

35.  $f(x) = \sqrt{\text{arc sen} 2x}$

36.  $f(x) = \frac{\text{arc tg} 5x}{\text{ctg} 7x}$

37.  $f(x) = (\text{arc sen} 3x)^5$

38.  $f(x) = \frac{e^x}{\ln(x)}$

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

40.  $f(x) = \frac{x^3 \text{sen} x}{\text{tg} x}$

41.  $f(x) = \text{sen}^3(3x^2 + 8)$

42.  $y = L(\text{arctg} x^3)$

43.  $y = \text{arcsen} \sqrt{x}$

44.  $y = \frac{x}{\text{arctg} x}$

45.  $y = e^x \cdot \cos x + \frac{\sqrt[3]{x} \cdot \text{sen} x}{2}$

46.  $y = 3 \cdot \text{sen} x + \sqrt{x} - \frac{1}{x^3} + e^x + \sqrt{5}$

47.  $y = (\cos x)^{x^2+5}$

48.  $\ln(x^2 + 3x)^3$

49.  $e^{7x} \cdot \text{sen}^3 x$

50.  $y = \cos x^4$

51.  $y = (4x^2 - 2)\sqrt{4x - 2}$

52.  $y = \text{sen}\left(\frac{x+1}{2x-3}\right)$

53.  $f(x) = x^2 e^{\cos x}$

54.  $f(x) = x^{\text{tg} x}$

55.  $f(x) = \sqrt{x}^{3x}$