

**Funciones. Derivadas****1.-**Halla la derivada de las siguientes funciones:

1.  $f(x) = 5$

2.  $f(x) = -3x$

3.  $f(x) = e$

4.  $f(x) = -x$

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

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

7.  $f(x) = \sqrt{2x} + \sqrt[3]{5x}$

8.  $f(x) = e^x$

9.  $f(x) = \cos 2x$

10.  $f(x) = \ln(x+1)$

11.  $f(x) = \operatorname{tg}(x-1)$

12.  $f(x) = 6x^5 - 3x^4 + 3x^2 - x + 2$

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

14.  $f(x) = \sec x$

15.  $f(x) = \frac{1}{x\sqrt{x}}$

16.  $f(x) = \operatorname{sen}x \cdot \cos x$

17.  $f(x) = (x^2 + 1)\ln x$

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

19.  $f(x) = \frac{\ln x}{x}$

20.  $f(x) = \operatorname{sen}5x$

21.  $f(x) = \operatorname{sen}^5 x$

22.  $f(x) = \operatorname{sen}(x^5)$

23.  $f(x) = xe^x$

24.  $f(x) = \cos(2x^2 + x)$

25.  $f(x) = \frac{\operatorname{sen}2x}{1 + \cos^2 x}$

26.  $f(x) = e^{x^3 - 3x^2 + 3x - 1}$

27.  $f(x) = \ln(\sqrt{x^4 - 1})$

28.  $f(x) = \frac{\operatorname{sen}2x}{\sqrt{x}}$

29.  $f(x) = \frac{1}{x} \cdot \ln(x-2)$

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

31.  $f(x) = (3x - 2x^2)e^{-x}$

32.  $f(x) = \ln(\ln x)$

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

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

35.  $f(x) = \ln^5 3x$

36.  $f(x) = x \ln x - x$

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

38.  $f(x) = x^2 \ln(2x-1)$

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

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

41.  $f(x) = \operatorname{sen}(\cos x^3)$

42.  $f(x) = 5x^3 - 10x^2 + x - 3$

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

44.  $f(x) = \ln(x^2 + 2x - 1)$

$$45. f(x) = \sqrt{\frac{\text{sen}x}{x}}$$

$$46. f(x) = \text{tg}(2x)$$

$$47. f(x) = \text{tg}^2 x$$

$$48. f(x) = 2\text{tg}x$$

$$49. f(x) = \text{tg}(x^2)$$

$$50. f(x) = \cos(e^{3x+5})$$

$$51. f(x) = \frac{\ln(3x^2 + e^{x^2})}{x}$$

$$52. f(x) = \sqrt[3]{4\text{sen}(3x)}$$

$$53. f(x) = \ln(\text{sen}(3x)) \cdot \text{tg}x$$

$$54. f(x) = \frac{4x^3}{\ln x}$$

$$55. f(x) = \frac{1}{3}x^3 - 2x^2 + \frac{4}{5}x - 5$$

$$56. f(x) = \log(\sqrt{x^3})$$

$$57. f(x) = (x^2 - 5x + 1)e^{\text{sen}x}$$

$$58. f(x) = \frac{\ln(\ln x)}{\cos x}$$

$$59. f(x) = \text{sen}(\ln \sqrt{x})$$

$$60. f(x) = \cos^3(4^x + 5)$$

$$61. f(x) = \frac{x}{\ln x}$$

$$62. f(x) = \cos(\cos x)$$