EJERCICIOS DE DERIVADAS GENERALES

1. Deriva las siguientes funciones

1. $f(x) = 4x^5 - 5x^4$

2. $f(x) = e^x \sin x$

3. $f(x) = (x^4 + 3x)^{-1}$

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

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

6. $f(x) = \dfrac{x}{1 + x^2}$

7. $f(x) = \dfrac{x^2 - 1}{x}$

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

9. $f(x) = \ln(xe^{7x})$

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

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

12. $f(x) = 2x - \dfrac{4}{\sqrt{x}}$

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

14. $f(x) = \sqrt{x^2 + 8}$

15. $f(x) = \dfrac{x}{\sqrt{1 - (\ln x)^2}}$

16. $f(x) = \dfrac{6}{(3x^2 - \pi)^4}$

17. $f(x) = \dfrac{(3x^2 - \pi x)^4}{6}$

18. $f(x) = \dfrac{x}{(x^2 + \sqrt{3x})^5}$

19. $f(x) = (xe^x)^\pi$

20. $f(x) = \left[\arctan(2x)\right]^{10}$

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

22. $f(x) = (x^6 + 1)^5(4x + 7)^3$

23. $f(x) = (7x + \sqrt{x^2 + 3})^6$

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

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

26. $f(x) = \sqrt{\dfrac{2x + 5}{7x - 9}}$

27. $f(x) = \dfrac{\sin x}{\cos x}$

28. $f(x) = e^x(x^2 + 3)(x^3 + 4)$

29. $f(x) = \dfrac{5x^2 - 7x}{x^2 + 2}$

30. $f(x) = \left[\ln(5x^2 + 9)\right]^3$

31. $f(x) = \ln(5x^2 + 9)^3$

32. $f(x) = \cot(6x)$

33. $f(x) = \sec^2 x \cdot \tan x$

34. $f(x) = \arcsin(2^x)$

35. $f(x) = \tan(\cos x)$

36. $f(x) = [(x^2 - 1)^5 - x]^3$