

EJERCICIOS EN CLASE

Derivar cada una de las siguientes funciones:

1. $y = 6x^2 - 2x + 1$

2. $y = \sqrt{3}x^\pi - ex^e + e^x + x^{\sqrt{2}}$

3. $z = \sqrt{x} - 2\sqrt[3]{x^5} + \frac{1}{2}\sqrt[4]{x^2 + 1} - \frac{4}{\sqrt{x}} + \frac{10}{x} - x$

4. $y = \sqrt{x + \sqrt{x + \sqrt{x}}}$

5. $y = \sqrt{(1-x)^2 + \sqrt{x-1}}$

6. $y = \sqrt{x + \sqrt{\frac{1}{x}}}$

7. $t = \log_3 x - \log_4(x-5) + \log_3(x^{10} - 3x)$

8. $w = \text{Ln}(x) + \text{Ln}(x^2 - x) - \ln\left(x - \frac{1}{x}\right)$

9. $y = \text{Ln}(xe^x) - \text{Ln}\left(\frac{x}{e^x}\right) + \text{Ln}(x)^5$

10. $z = \text{Ln}^9(x) - \text{Ln}(x^9) + \text{Ln}(x + e^x)$

11. $y = \text{Ln}\sqrt{\frac{1+x^2}{x^2-1}}$

12. $z = \sqrt{x^2 + 3x + 2} - \text{sen}(x^2 - 3x)$

13. $z = (u^3 + 1)^5(u^3 - 2)^8$

14. $y = \sqrt{x}e^x + e^{x+3x}$

15. $y = e^{x+1}\text{Ln}(x^2 + 1)$

16. $t = e^{x^3+1}\text{sen}(\text{Ln}(x))$

17. $t = (x + 10)\text{Arcsen}(x - 3)$

18. $y = (x^2 - 7)\text{Ln}(\text{Ln}(x^2 - 7))$

19. $z = (3t)\cos^4(3t^2) - t\text{sen}^9(6t)$

20. $y = 100w(w^2 - 3)(\text{Arccos}(w - 10))$

21. $y = \cos(5x) + \cos^2(5x) - \cos((5x)^2)$

22. $y = \cos(x)\text{Arc tan}(x) - \sec(x + 2) + [\csc(10x)]^4$

23. $w = 9\frac{x^2+2}{x^3+1}$

24. $y = \left[\frac{x^3+3x^2+x}{x^2-1}\right]^{10}$

25. $z = \frac{1}{\sqrt{3x^2+x}}$

26. $y = \sqrt{\frac{x+1}{x^2-1}}$

27. $y = \left(\frac{\text{sen}(t)}{\cos(2t)}\right)^3$

28. $z = \frac{1}{4}\text{Ln}\left(\frac{x^2}{x^2-4}\right) - \frac{1}{x^2-4}$

29. $w = \frac{t\text{sen}^3(\pi t)}{1+t}$

30. $z = \frac{(3t^2-6)^4}{(2-2t^2)^5}$

31. $y = \left(\frac{x^2-4}{x-4}\right)^{1/2}$

32. $y = \frac{\sqrt{w+1}+3}{(w^2+1)^5}$

33. $y = x^x$

34. $y = r^x$; r : constante

35. $y = (\sqrt{x})^{\cos(x-3)}$

36. $z = (\text{Ln}(x + 1))^{\text{Arctan}(x)}$

37. $w = (x^2 + 10x)^{\csc(x)}$

38. $y = (\sec(x - 2))^{\text{Tan}(x^2)}$

39. $y = (\sqrt{\cot(x + 2)})^{x^5}$

40. $y = (xe^x)^{\sqrt[3]{x+1}}$