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Nombre del trabajo: Ejercicios de las funciones básicas

Materia: Biomatemáticas

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o Fórmula empleada

Ejercicios de las funciones básicas

Objetivo. Obtener por fórmula la derivada de las siguientes funciones

$$1. f(x) = -82x^{-17}$$
$$f'(x) = 1394x^{-18}$$

$$d/dx cx^n = cnx^{n-1}$$

$$2. f(x) = x^{-5/6}$$
$$f'(x) = -5/6 x^{-11/6}$$

$$d/dx x^n = nx^{n-1}$$

$$3. f(x) = x^{-19}$$
$$f'(x) = -19x^{-20}$$

$$d/dx x^n = nx^{n-1}$$

$$4. f(x) = x^{3/8}$$
$$f'(x) = 3/8 x^{-5/8}$$

$$d/dx x^n = nx^{n-1}$$

$$5. f(x) = x^{5/2}$$
$$f'(x) = 5/2 x^{3/2}$$

$$d/dx x^n = nx^{n-1}$$

$$6. f(x) = x^{25}$$
$$f'(x) = 25x^{24}$$

$$d/dx x^n = nx^{n-1}$$

$$7. f(x) = -33x^{-22}$$
$$f'(x) = 726x^{-23}$$

$$d/dx cx^n = cnx^{n-1}$$

$$8. f(x) = x^{3/4}$$
$$f'(x) = 3/4 x^{-1/4}$$

$$d/dx x^n = nx^{n-1}$$

$$9. f(x) = 9x^{-2/9}$$
$$f'(x) = -2x^{-11/9}$$

$$d/dx cx^n = cnx^{n-1}$$

$$10. - f(x) = 39$$
$$- f'(x) = 0$$

$$d/dx c = 0$$

$$11. - f(x) = 62$$
$$- f'(x) = 0$$

$$d/dx c = 0$$

$$12. - f(x) = -4x$$
$$- f'(x) = -4$$

$$d/dx cx = c$$

$$13. - f(x) = -39x$$
$$- f'(x) = -39$$

$$d/dx cx = c$$

$$14. - f(x) = -78$$
$$- f'(x) = 0$$

$$d/dx c = 0$$

$$15. - f(x) = -16x$$
$$- f'(x) = -16$$

$$d/dx cx = c$$

$$16. - f(x) = -4$$
$$- f'(x) = 0$$

$$d/dx c = 0$$

$$17. - f(x) = -64x$$
$$- f'(x) = -64$$

$$d/dx cx = c$$

$$18. - f(x) = -41$$
$$- f'(x) = 0$$

$$d/dx c = 0$$

$$19. - f(x) = x^5$$
$$- f'(x) = 5x^4$$

$$d/dx x^n = nx^{n-1}$$

$$20. f(x) = 36x \\ f'(x) = 36$$

$$d/dx cx = c$$

$$21. f(x) = -54x^{-3} \\ f'(x) = 162x^{-4}$$

$$d/dx cx^n = cnx^{n-1}$$

$$22. f(x) = -2x^{-3/7} \\ f'(x) = 6/7 x^{-10/7}$$

$$d/dx cx^n = cnx^{n-1}$$

$$23. f(x) = 52x^{-5/6} \\ f'(x) = -260/6 x^{-11/6} \\ f'(x) = -130/3 x^{-11/6}$$

$$d/dx cx^n = cnx^{n-1}$$

$$24. f(x) = x^{5/3} \\ f'(x) = 5/3 x^{2/3}$$

$$d/dx x^n = nx^{n-1}$$

$$25. f(x) = -2x \\ f'(x) = -2$$

$$d/dx cx = c$$

$$26. f(x) = 20x^{1/3} \\ f'(x) = 140/3 x^{-2/3}$$

$$d/dx cx^n = cnx^{n-1}$$

$$27. f(x) = x^{-1/4} \\ f'(x) = -1/4 x^{-5/4}$$

$$d/dx x^n = nx^{n-1}$$

$$28. f(x) = 37x^{17} \\ f'(x) = 629x^{16}$$

$$d/dx cx^n = cnx^{n-1}$$

$$29. f(x) = -73x^{-4}$$
$$f'(x) = 292x^{-5}$$

$$d/dx cx^n = cnx^{n-1}$$

$$30. f(x) = x^{-1/7}$$
$$f'(x) = -1/7x^{-8/7}$$

$$d/dx x^n = nx^{n-1}$$

$$31. f(x) = -19x^{3/4}$$
$$f'(x) = -57/4x^{-1/4}$$

$$d/dx cx^n = cnx^{n-1}$$

$$32. f(x) = 11x^{13}$$
$$f'(x) = 143x^{12}$$

$$d/dx cx^n = cnx^{n-1}$$

$$33. f(x) = -14x^{24}$$
$$f'(x) = -336x^{23}$$

$$d/dx cx^n = cnx^{n-1}$$

$$34. f(x) = x^{-9}$$
$$f'(x) = -9x^{-10}$$

$$d/dx x^n = nx^{n-1}$$

$$35. f(x) = 15x^{1/5}$$
$$f'(x) = 15/5x^{-4/5}$$
$$f'(x) = 3x^{-4/5}$$

$$d/dx cx^n = cnx^{n-1}$$

$$36. f(x) = x^{2/7}$$
$$f'(x) = 2/7x^{-5/7}$$

$$d/dx x^n = nx^{n-1}$$

$$37. f(x) = 70x^{7/3}$$
$$f'(x) = 490/3x^{4/3}$$

$$d/dx cx^n = cnx^{n-1}$$

$$38. f(x) = 77x^{2/7}$$

$$f'(x) = 154x^{-5/7}$$

$$d/dx cx^n = cnx^{n-1}$$

$$39. f(x) = 72$$

$$f'(x) = 0$$

$$d/dx c = 0$$

$$40. f(x) = 38x^{-8}$$

$$f'(x) = -304x^{-9}$$

$$d/dx cx^n = cnx^{n-1}$$

$$41. f(x) = -8x^{-2}$$

$$f'(x) = 16x^{-3}$$

$$d/dx cx^n = cnx^{n-1}$$

$$42. f(x) = x^{2/5}$$

$$f'(x) = 2/5 x^{-3/5}$$

$$d/dx x^n = nx^{n-1}$$

$$43. f(x) = x^{-1/6}$$

$$f'(x) = -1/6 x^{-7/6}$$

$$d/dx x^n = nx^{n-1}$$

$$44. f(x) = -46x$$

$$f'(x) = -46$$

$$d/dx cx = c$$

$$45. f(x) = 97$$

$$f'(x) = 0$$

$$d/dx c = 0$$

$$46. f(x) = 83x^{-1}$$

$$f'(x) = -83x^{-2}$$

$$d/dx cx^n = cnx^{n-1}$$

$$47. f(x) = -91$$

$$f'(x) = 0$$

$$d/dx c = 0$$

Referencias

Fonseca Ramos O. (Diciembre 2014) Derivadas de las funciones básicas. Derivadas de constantes, funciones lineales y potencias de x. UNAM. Recuperado de: http://objetos.unam.mx/matematicas/leccionesMatematicas/03/3_020/index.html