

Nombre de alumnos: Mary Denny Cruz Jiménez



Nombre del trabajo: ejercicios de

Materia: calculo

Grado: 4º Bachillerato – Enfermería

Comitán de Domínguez, 30 de abril de 2021

Alumno: Mari Dany Cruz Jimenez
4 semestre UDS.

$$10. f(x) = \frac{5}{x^5} + \frac{3}{x^2} = 5x^{-5} + 3x^{-2} \rightarrow f'(x) = -25x^{-6} - 6x^{-3} = -\frac{25}{x^6} - \frac{6}{x^3}$$

$$11. f(x) = \frac{1}{\sqrt{x}} = \frac{1}{x^{1/2}} = x^{-1/2} \rightarrow f'(x) = -\frac{1}{2} x^{-3/2} = -\frac{1}{2x^{3/2}}$$

$$12. f(x) = \frac{5}{x^5} + \frac{3}{x^2} = 5x^{-5} + 3x^{-2} \rightarrow f'(x) = -25x^{-6} - 6x^{-3} = -\frac{25}{x^6} - \frac{6}{x^3}$$

$$13. f(x) = x \cdot \frac{1}{\sqrt{x}} = \frac{1}{x} \cdot x^{1/2} = x^{-1/2} \rightarrow f'(x) = \frac{3}{2} x^{-3/2}$$

$$14. f(x) = 3\sqrt{x^2} + \sqrt{x} = x \cdot \frac{2}{3} + \frac{1}{2} x^{-1/2} \rightarrow f'(x) = \frac{2}{3} x^{-1/3} + \frac{1}{2} x^{-3/2}$$

$$15. f(x) = (x^2 + 3x - 2)^4 \rightarrow f'(x) = 4(x^2 + 3x - 2)^3 (2x + 3) = 8(x+12)(x^2 + 3x - 2)^3$$

$$16. f(x) = \sqrt{x^2 - 2x + 3} = (x^2 - 2x + 3)^{1/2} \rightarrow f'(x) = \frac{1}{2} (x^2 - 2x + 3)^{-1/2} \cdot 2x - 2 = \frac{2x - 2}{2(x^2 - 2x + 3)^{1/2}} = \frac{x - 1}{\sqrt{x^2 - 2x + 3}}$$

$$17. f(x) = \sqrt[4]{x^5 - x^3 - 2} = (x^5 - x^3 - 2)^{1/4} \rightarrow f'(x) = \frac{1}{4} (x^5 - x^3 - 2)^{-3/4} (5x^4 - 3x^2) = \frac{5x^4 - 3x^2}{4\sqrt[4]{x^5 - x^3 - 2}}$$

Man Denny Cruz Jimenez
uds 4 semestre
Entomaria/

$$\textcircled{1} f(x) = 5 \rightarrow f'(x) = 0$$

$$\textcircled{2} f(x) = -2x \rightarrow f'(x) = -2$$

$$\textcircled{3} f(x) = -2x + 2 \rightarrow f'(x) = -2 + 0 = -2$$

$$\textcircled{4} f(x) = -2x^2 - 5 \rightarrow f'(x) = 4x + 0 = 4x$$

$$\textcircled{5} f(x) = 2x^4 + x^3 - x^2 + 4 \rightarrow f'(x) = 8x^3 + 3x^2 - 2x + 0$$

$$6f'(x) = 8x^3 - 3x^2 - 2x$$

$$\textcircled{6} f(x) = \frac{1}{3x^2} = \frac{1}{3} x^{-2} \rightarrow f' = \frac{1}{3} (3x^2) = x^2$$

$$\textcircled{7} f(x) = \frac{1}{3x^2} \rightarrow f'(x) = -\frac{2}{3} x^{-3} = -\frac{2}{3x^3}$$

$$\textcircled{8} f(x) = \frac{x+1}{x-1} \rightarrow f' = \frac{x-1(1) - (x+1)(1)}{(x-1)^2} = \frac{(x-1) - (x+1)}{(x-1)(x-1)} =$$

$$\frac{1}{(x-1)} - \frac{(x+1)}{(x-1)^2}$$

$$\textcircled{9} f(x) = (5x^2 - 3) \cdot (x^2 + x + 4) \rightarrow$$

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

$$(x^2 + x + 4) \cdot$$

$$10x^3 + 5x^2 - 6x - 3 + 10x^3 + 10x^2 +$$

$$= 20x^3 + 15x^2 + 34x - 3$$