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Nombre del trabajo : Evidencias .

Materia: Biomatematicas .

Semestre : 2.

Grupo: A.

Comitán de Domínguez Chiapas a 2 de abril de 2022.

Ejercicios clase.

Derivadas.

5) $f(x) = (fg)$ $\quad f'(x) = fg' + f'g$

6) $f(x) = \left[\frac{f}{g}\right]$ $\quad f'(x) = \frac{f'g - fg'}{g^2}$.

Ejem.

$f(x) = \frac{4x+1}{10x^2-5}$ $\quad \frac{20x(4x+1) - 4(10x^2-5)}{(10^2-5)^2}$

1) $F(x) = \frac{5x^2+4x}{6x^3}$

$\frac{18x^2(5x^2+4x) - (10x+4)(6x)}{(6x^3)^2}$

2) $f(x) = \frac{3x^5 - 7x^4}{2x}$

$\frac{2x(3x^5-7x^4) - (15x^4-28)(2x)}{(2)^2}$

3) $F(x) = \frac{10x^2+5x}{15x-2}$

$\frac{15x(10x^2+5x) - (20x)(15x-2)}{(15-2)}$

4) $f(x) = \frac{2x^{10}}{2x^5}$

$\frac{10x(2x^{10}) - 20x^9(2x^5)}{(2x^2)^2}$

5) $\frac{58x}{60x}$.

$\frac{60x(58x) - 58x(60x)}{60x^2}$

Teorema: La derivada de 1 potencia entera de 1 función.

Ej $f(x)=(2x+3)^3$

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

$f'(x)=(3)(2x+3)^2(2)$

$f'(x)=6(2x+3)^2$

1) $f(x)=(3x^4-5)^2$

$(2)(3x^4-5)^{2-1}(12x^3)$

$(2)(3x^4-5)(12x^3)$

$24x^3(3x^4-5)$

2) $f(x)=(x+2)^3$

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

$f'(x)(x+2)$

$3(x+2)$

3) $F(x)=(6x^2-5x+4)^4$

$f'(x)=(4)(6x^2-5x+4)^{4-1}(12x^3)$

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

$48x-20(6x^2-5x+4)^3$

4) $f(x)=(2xy-3)^5$

$5(2xy-3)^4(2xy)$

$10x(2xy-3)^4$

5) $f(x)=(5x^2+4y-3)^2$

$f'(x)=10(4y)-3^2$

Tarea.

Tarea.

1) $f(x) = 3x^2$ ✓

$3(1x^1)$

$6x$ ✗

2) $f(x) = 5$ ✓

$\emptyset$

3) $f(x) = -2x$ ✓

$-2(1)$

$= 2x$ ✗

4) $f(x) = 2x + 2$ ✓

$2(1) + 2$

$= 2$

5) ✗ $f(x) = -2x^2 + 2$

$4x + 2$

6) $f(x) = 4x^3 + 6x$

$12x^2 + 6$

7) $f(x) = 8x^6$

$8(6x^5)$

$48x^5$

8) $f(x) = 7$

Constante

0

9) $f(x) = (3x^3 + 2x) + (6x^4 + 6)$

$24x^3(3x^3 + 2x) + 9x^2 + 2(1)(6x^4 + 6)$

10) $f(x) = (8x + 2) - (3x^2 - x)$

$6x(8x + 2) - 8(3x^2 - x)$

11) $f(x) = (7x^4 + 6x^3 - 5x^2 + x)^3$ ·

$(3)(7x^4 + 6x^3 - 5x^2 + x)^{3-1}(28)^2$

$84(7x^4 + 6x^3 - 5x^2 + x)$

12) $f(x) = \frac{8x^6 - 6x^3 - 4}{2x^4}$ · ✓

$\frac{8x(8x^6 - 6x^3 - 4) - 48x^5 - 18x^2 \quad (2x^4)}{2x^3}$

13) $f(x) = \frac{2x^3 - x^2}{6x^2 + x + 2}$ · ✓

$\frac{12x(2x^3 - x^2) - 6x^2 - (1)(6x^2 + x + 2)}{(6x)^2}$

14) $f(x) = 78$. /

$\emptyset$

15) $f(x) = (2x^3 + 5x^2 + 6x)^4$ ·

$(4)(2x^3 + 5x^2 + 6x)^{4-1}(6)$

$24(2x^3 + 5x^2 + 6x)^3$

Clase

1) $f(x) = 5x + 3$

$y' = 8$

2) $f(x) = 5x^2$

$y = 5$

3) $f(x) = 2x^3 + f(x)$

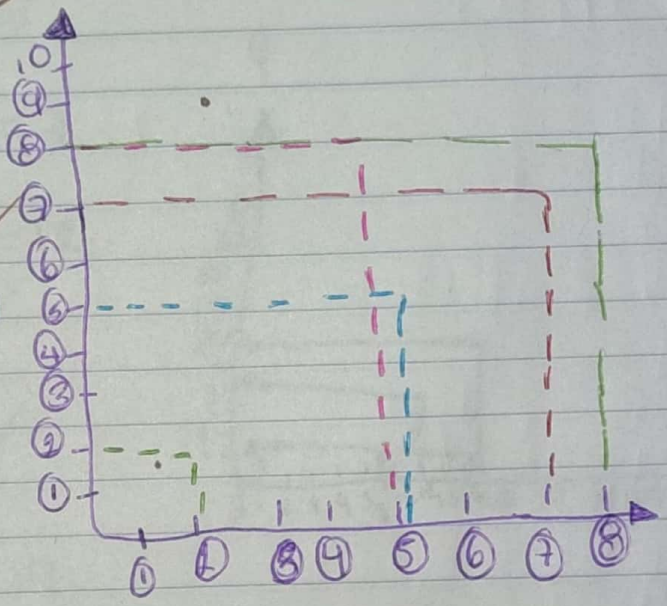
$y = 2$

4) $f(x) = 7x$

$y = 7$

5) $f(x) = 8x^2$

$y = 8$



Ejercicios

P(0-1)

si f(1)
P( )

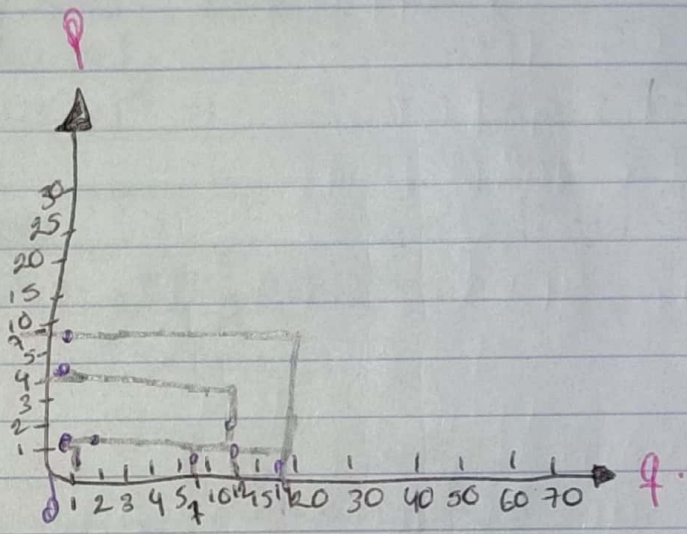
1) f(x) = 3x-2.
P= 1 q=7.

2) f(x) = x^2 + 2.
P=4 q=12.

8) f(x) = -x+2.
P=1 q=1

4) f(x) = 6x+1.
P=7. q=19.

5) f(x) = 5x-5.
P=0 q=12.



1| No ↑ 85 c/h → 3hr y 4hr. 85 ÷ 100

No (0.85)^3 No = (0.85)

No = 2.55 No = 3.4

= 6,375 = 8.500

2| No ↑ 60% c/h → 1hr y 5hrs. 60 ÷ 100

No = (60%) No = (60%)

No = (0.6)^1 No = (0.6)^5

N = 0.6 N = 3.

1,500 7,500

3d No ↑ 20% c/h → 1hr y 2hrs. 20 ÷ 100.

No = (02) No = 0.2

N = 0.2 No = 0.4.

= 500 = 1000.

4| No ↑ 35% c/h → 6 hrs / 12 hrs / 24 hrs. 35 ÷ 100.

No = (0.35)^6 No = (0.35)^{12} No = (05)^{24}

No = 2.1 No = 4.2 No = 8.4.

= 5,250. = 10,500 = 21,000

Temperatura en °C y °F.

Temperatura medida en °C y °F determinada por la igualdad.

$$9C - 5F + 160 = 0$$

Expresa.

F c/f de C.

$$5F = 9C + 160.$$

$$F = \frac{9C + 160.}{5}$$

$$F = \frac{9}{5}C + 32 \rightarrow F(C).$$

Expresa en °C c/f de F.

$$9C = 5F - 160$$

$$C = \frac{5F - 160}{9} \rightarrow C(F).$$

38 °C

$$\rightarrow f = \frac{9(38) + 160}{5}$$

$$\rightarrow f = \frac{342}{5} + 32$$

$$\rightarrow f = 68.4 + 32.$$

$$\rightarrow f = 100.4°F$$

$$\rightarrow C = \frac{5(100.4) - 160}{9}$$

$$\rightarrow C = \frac{502 - 160}{9}$$

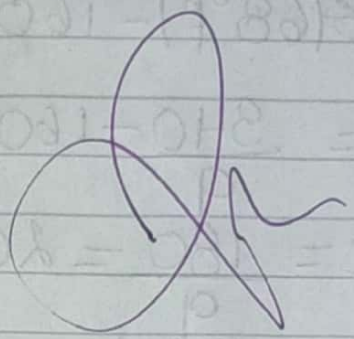
$$\rightarrow C = \frac{342}{9} = 38°C.$$

Convierte.-

1) 20°C.

$f = \frac{9(20)+160}{5}$ $f = 36+32$

$f = \frac{180}{5} + 32$ $f = 68°F.$



2) 104°F

$C = \frac{5(104)-160}{9}$ $C = \frac{360}{9} - 160$

$C = \frac{520}{9} - 160$ $C = 40°C.$

3) 140°F

$C = \frac{5(140)-160}{9}$

$C = \frac{700}{9} - 160$

4) 37.2°C.

$f = \frac{9(37.2)+160}{5}$

$f = \frac{334.8}{5} + 32$

5) 35.5°C.

$f = \frac{9(35.5)+160}{5}$

$f = \frac{319.5}{5} + 32$

6) 95°F

$C = \frac{5(95)-160}{9}$

$C = \frac{475}{9} - 160$ $C = \frac{315}{9} = 35°C$

$C = 540 \div 9 = 60°C.$

7) -4°F

$C = \frac{5(-4)+160}{9}$ $C = 20 - 160 = -45$

$9 - 15.5$

$F = 166.96 + 32$

$F = 98.96°F$

8) -5°C.

$f = \frac{9(-5)+160}{5}$ $F = -9 + 32$

$F = 45 + 32$ $F = -41$

$f = 63.8 + 32$

$f = 95.8F$

Comprobación.

① $5(68°F) - 160$

$c = \frac{340 - 160}{9}$

$c = \frac{180}{9} = 20$

② $c = \frac{5(360)}{9} - 160$

$c = \frac{1800}{9} - 160$

$c = \frac{1640}{9} = 104°$.

$c = \frac{5 - (98.96)}{9} - 160$

$c = \frac{494.8}{9} - 160$

$c = \frac{334.8}{9} = 37.2$

$c = \frac{5 - (41)}{9} - 160$

$c = \frac{205}{9} - 160$

$c = \frac{45}{9} = -5°C$