November 12,2022

$$F(x) = x^3 - 4x \quad \text{, owe age cate if change over the interval } [-2, 3]$$

$$\Delta F \qquad \Delta Y \qquad \qquad x \qquad | \ Y = F(x)$$

$$\frac{\Delta F}{\Delta x} = \frac{\Delta Y}{\Delta x} \quad \text{average cote of change over the interval } [-2,3]$$

$$\frac{\Delta F}{\Delta x} = \frac{\Delta Y}{\Delta x} \quad \frac{X}{4} \quad \frac{Y = F(X)}{4} = (-2)^3 - 4(-2)^3 - 4(-2)^3 - 8 + 8 = 0$$

$$+5(\frac{3}{3}) \quad Y = F(3) = (3)^3 - 4(3) = 27 - 12 = 15$$

$$+5\left(\frac{3}{3}\right) = 6\left(\frac{15}{5} = 3\right)$$

 $h(x) = \frac{1}{8} \chi^3 - \chi^2$

$$\frac{x}{-2} \frac{y=h(x)}{\frac{1}{8}(-2)^3 - (-2)^2} = \frac{1}{8}(-8) - (4) = -1 - 4 = -5$$

$$\frac{1}{8}(2)^3 - (2)^2 = \frac{1}{8}(8) - 4 = 1 - 4 = -3$$

$$\frac{1}{8}(2)^{3} - (2)^{2} = \frac{1}{8}(8) - 4 = 1 - \frac{1}{8}(2)^{3} - (2)^{2} = \frac{1}{8}(8) - 4 = 1 - \frac{1}{8}(8) - \frac{1}{8$$

$$g(x) = -\frac{x^{2}}{4} + 7$$

$$X = 0, g(0) = -\frac{(0)^{2}}{4} + 7$$

$$= -\frac{0}{A} + 7$$

$$= 7$$

$$(0,7)$$

$$\frac{y_2 - y_1}{x_2 - x_1} = \frac{3 - 7}{4 - 0} = \frac{-4}{4} = \boxed{-1}$$

$$\frac{1}{\chi_2 - \chi_1} = \frac{1}{4 - 0} = \frac{1}{4}$$

$$h(\chi) = \chi^2 - 1$$

$$h(x) = x^{2} - 3, h(-3)$$

$$x=-3$$
, $h(-3)=(-3)^2-1$
= 9-1
= 8

$$= 9 - 1$$

$$= 8$$

$$(-3,8)$$

$$\frac{y_2}{x_2}$$

 $X=-1, h(-1)=(-1)^{2}-1$

 $=\frac{-8}{-1+3}=\frac{-8}{2}=\overline{-4}$

 $x = 4, g(4) = -\frac{y^2}{y} + 7$

$$= -\frac{16}{4} + 7$$

$$= -4 + 7$$

$$= 3$$

$$h(t) = (t+3)^2 + 5$$

$$t = -5, h(-5) = (-5)$$

(-5,9)

 $h(t) = (t + 3)^2 + 5$

 $\frac{y_2 - y_1}{x_2 - x_1} = \frac{14 - 6}{0 - (-2)} = \frac{8}{0 + 2} = \frac{8}{2} = 4$

(-2,6) (0,14)

 $h(x) = x^2 - 1$

$$\begin{aligned} f &= -5, h(-5) = (-5+3)^2 + 5 & f &= -1, h(-1) = (-1+3)^2 + 5 \\ &= (-2)^2 + 5 & = (2)^2 + 5 \\ &= 4 + 5 \end{aligned}$$

$$= (-2)^{2} + 5$$

$$= (4 + 5)^{2}$$

$$= (-5)^{2} + 5$$

$$= (-2)^{2} + 5$$

$$= (4 + 5)$$

$$\frac{Y_2 - Y_1}{X_2 - X_1} = \frac{9 - 9}{-1 + 5} = \frac{0}{4} = \boxed{0}$$

 $f(x) = x^2 + 10$

(-2,14) (-1,11)

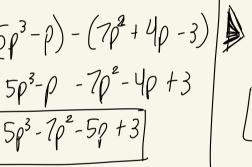
 $\frac{y_2 - y_1}{x_2 - x_1} = \frac{11 - 14}{-1 - (-2)} = \frac{-3}{-1 + 2} = \frac{-3}{1}$

 $=(2)^{2}+5$

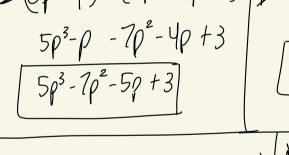
= 4+5

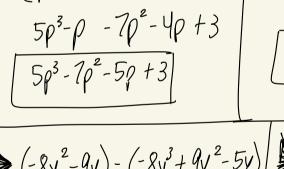


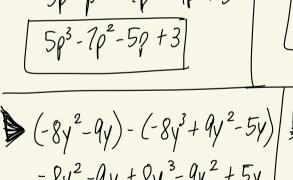
$$\frac{\left[\alpha^{3} + 7\alpha^{2} + 8\alpha\right]}{\left[5\rho^{3} - \rho\right] - \left(7\rho^{2} + 4\rho - 3\right)}$$

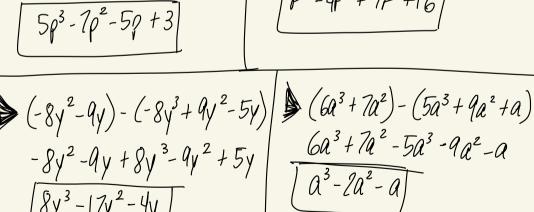


$$\begin{array}{c|c} 5\rho^{3}-\rho)-(7\rho^{2}+4\rho-3) \\ \hline 5\rho^{3}-\rho&-7\rho^{2}-4\rho+3 \\ \hline 5\rho^{3}-7\rho^{2}-5\rho+3 \\ \hline \end{array}$$

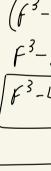


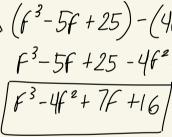




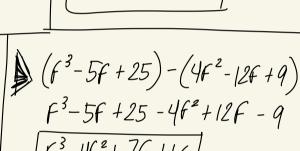


|8y3-17y2-4y|





 $6a^3 + 7a^2 - 5a^3 - 9a^2 - a$



$$(\rho^{2}-5\rho+4)-(4\rho^{2}-9\rho+11)$$

$$\rho^{2}-5\rho+4-4\rho^{2}+9\rho-11$$

$$-3\rho^{2}+4\rho-7$$

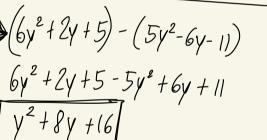
$$-(0b^{2}+12b-16)$$

$$\begin{array}{c|c} & (-3a^2 + 2a - 5) - (-2a^2 + a + 6) \\ & (-3a^2 + 2a - 5) - (-2a^2 + a + 6) \\ & (-3a^2 + 2a - 5 + 2a^2 - a - 6) \\ & (-3a^2 + 2a - 5 + 2a^2 - a - 6) \\ & (-3a^2 + 2a + 5) - (5y^2 - 6y - 11) \\ & (-3a^2 + 2a - 5) - (-2a^2 + a + 6) \\ & (-3a^2 + 2y + 5) - (5y^2 - 6y - 11) \\ & (-3a^2 + 2a - 5) - (-2a^2 + a + 6) \\ & (-3a^2 + 2y + 5) - (5y^2 - 6y - 11) \\ & (-3a^2 + 2a - 5) - (-2a^2 + a + 6) \\ & (-3a^2 + 2a - 5) - (-2a^2 + a + 6) \\ & (-3a^2 + 2a - 5) - (-2a^2 + a + 6) \\ & (-3a^2 + 2a - 5) - (-2a^2 + a + 6) \\ & (-3a^2 + 2a - 5) - (-2a^2 + a + 6) \\ & (-3a^2 + 2a - 5) - (-2a^2 + a + 6) \\ & (-3a^2 + 2a - 5) - (-2a^2 + a + 6) \\ & (-3a^2 + 2a - 5) - (-2a^2 + a + 6) \\ & (-3a^2 + 2a - 5) - (-2a^2 + a + 6) \\ & (-3a^2 + 2a - 5) - (-2a^2 + a + 6) \\ & (-3a^2 + 2a - 5) - (-2a^2 + a + 6) \\ & (-3a^2 + 2a - 11) \\ & (-3a$$

$$\frac{[-\alpha + \alpha - 11]}{[7x^2 - 3x + 10] - (-4x^2 + 6x - 4)}$$

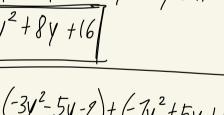
$$\frac{7x^2 - 3x + 10 + 4x^2 - 6x + 4}{[-3x^2 - 6x + 4]}$$

 $11\chi^{2}-9\chi+14$



-712-91 +14

1-1512+21+8



$$g(t) = -(t-1)^{2} + 5$$

$$g(-4) = -(-4-1)^{2} + 5$$

$$g(5) = -(5-1)^{2} + 5$$

 $\left| a^2 + 9a + 20 \right|$

 $10a^2 + 3a + 25 - 9a^2 + 6a - 5$

$$= -(-5)^{2} + 5$$

$$= -25 + 5$$

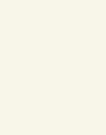
$$\frac{y_2 - y_1}{X_2 - X_1} = \frac{-11 - (-20)}{5 - (-4)} = \frac{-11 + 20}{5 + 4} = \frac{9}{9} = \boxed{1}$$

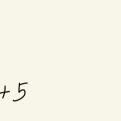
$$\frac{\sqrt{2-1}}{2-x} = \frac{-11-}{5-x}$$

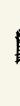
(5,-11)

$$= -(4)^{2} + 5$$

 $= -16 + 5$







$$\begin{array}{c|c}
\hline
20w^{5} - 12w^{4} - 16w^{3}
\end{array}$$

$$\begin{array}{c|c}
3h(-h^{2} + 2h - 1) \\
\hline
-3h^{3} + 6h^{2} - 3h
\end{array}$$

$$\begin{array}{c|c}
3c^{6} - 12c^{5} + 9c^{4}
\end{array}$$

$$\begin{array}{c|c}
8c^{2}(c^{2} - 2) \\
\hline
8c^{4}(c^{2} - 4h) \\
\hline
-5h^{4} + 20h^{3}
\end{array}$$

$$\begin{array}{c|c}
-n^{2}(n^{2} + 5n + 6)
\end{array}$$

 $3x(x^2-5x+6)$ $|3x^3 - 15x^2 + 18x$

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

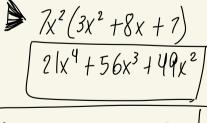
$$3x^{3}-15x^{2}+18x$$

► -t (-463 + 862)

$$\frac{15x^2 + 18x}{-4t^3 + 8t^2}$$

464-863 |

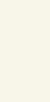
 $M(-M^3 + M^2 + 3M)$

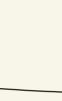


 $1 - M^4 + M^3 + 3M^2$

 $-n^4 - 5n^3 - 6n^2$

 $4x^{3}(x^{3}+3x^{2}+cx)$







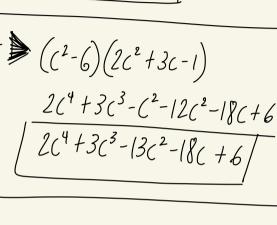
36²(46⁴ + 26 - 6)

$$\begin{array}{c|c}
q^{4} - 5q^{2} - 2q^{3} + 10q + 5q^{2} - 25 \\
\hline
q^{4} - 2q^{3} + 10q - 25
\end{array}$$

$$\begin{array}{c|c}
(d^{2} + 3)(d^{2} + 2d + 1) \\
d^{4} + 2d^{3} + d^{2} + 3d^{2} + 6d + 3
\end{array}$$

$$\begin{array}{c|c}
d^{4} + 2d^{3} + 4d^{2} + 6d + 3
\end{array}$$

 $(q^2-2q+5)(q^2-5)$



16a2 +48-6a4-18a2

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

-6a4-2a2+48

$$(3y^2 +$$

-4x8+25

$$(3y^{2} + 2y^{5})(3y^{2} - 2y^{5}) = \alpha^{2} - b^{2} = (3y^{2})^{2} - (2y^{5})^{2} = \sqrt{9y^{4} - 4y^{10}}$$

-c12 + 8/c4

$$(3y^{2} + 2y^{5})(3y^{2} - 2y^{5}) = \alpha^{2} - \beta^{2} = (3y^{2}) - (2y^{5})$$

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

$$(9c^{2} + c^{6})(9c^{2} - c^{6})$$

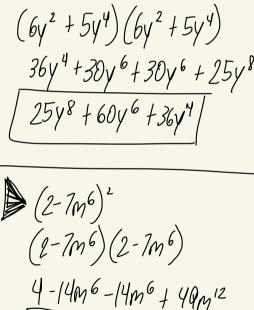
$$(9c^{4} + 6)(9c^{2} - c^{6})$$

$$(9c^{4} + 6)(9c^{4} - c^{6})$$

$$(9c^{4} + 6)(9c^$$

$$\frac{1}{2} + 2y^{5}(3y^{2} - 2y^{5}) = a^{2} - b^{2} = (3y)$$

 $(8-n^2)(8+n^2)$



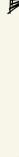
1 49m12-28m6+41

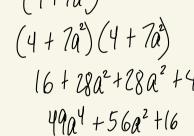
(4m5-5m6) (4m5+5m6)

 $(4m^5)^2 - (-5m^6)^2$

 $16M^{10} - (25M^{12})$

-25m12+16m10/

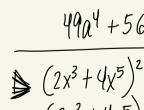




 $(2x^3 + 4x^5)(2x^3 + 4x^5)$

[6x10+16x8+4x6]

4x6+8x8+8x8+16x10



$$(8w^{4} + w^{3})^{2}$$

$$(8w^{4} + w^{3})(8w^{4} + w^{3})$$

$$64w^{8} + 8w^{7} + 8w^{7} + w^{6}$$

$$64w^{8} + 16w^{7} + w^{6}$$

$$(7b^{5} - b^{2})^{2}$$

$$(7b^{5} - b^{2})(7b^{5} - b^{2})$$

$$\begin{array}{c}
25 + 306^{3} + 306^{3} + 3 \\
\hline
366^{6} + 606^{3} + 25
\end{array}$$

$$\begin{array}{c}
(9y^{5} + 2)^{2} \\
(9y^{5} + 2)(9y^{5} + 2) \\
8|y^{10} + (8y^{5} + 18y^{5} + 4)
\end{array}$$

8 ly 10 + 36 y 5 + 4 |

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

 $(5 + 66^3)^2$

 $(4t^3-5)(4t^3-5)$

| 166°-4063 +25

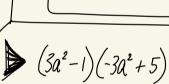
1646-2043-2043+25

$$\begin{array}{c}
(5+6b^3)(5+6b^3) \\
25+30b^3+30b^3+36b^6 \\
\hline
36b^6+60b^3+25
\end{array}$$









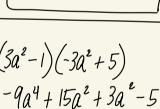
 $(4b^2+3)(4b^2-3)$

/ 1664-9 N



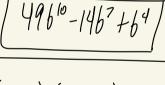
 $-9a^{4} + 18a^{2} - 5$

1664-1262+1262-9









$$(2z-1)(z^{2}-2z+1)$$

$$2z^{3}-4z^{2}+2z-2^{2}+2z-1$$

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

$$4x^{8}-6x^{7}+6x^{7}-$$

$$(-\rho^{2}+4\rho-3)(\rho^{2}+2)$$

$$-\rho^{4}-2\rho^{2}+4\rho^{3}+8\rho-3\rho^{2}-6$$

(-2,14)

= / +/0

(- l, 1)

4x8-6x7+6x7-9x6

$$b^{2}+8b-9-(11b^{2}-4b+7)$$

$$b^{2}+8b-9-11b^{2}+4b-7$$

$$-(0b^{2}+12b-(6))$$

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

$$(4t^3-5)(4t^3-5)$$

$$16t^6-20t^3-20t^3+25$$

$$16t^6-40t^3+25$$