$$\frac{2x^4 - 3x}{x} = x\left(2x^3 - 3\right)$$

$$\frac{2x^4 - 3x}{2x^4 - 3x}$$

$$\frac{2x^3 - 5x^2}{x}$$

$$X\left(x^2 - 5x\right)$$

$$\frac{3x^5 - x}{x} = \frac{3x^5}{x} - \frac{x}{x} = \boxed{3x^4 - 1}$$

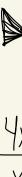
$$\frac{2x^{5} + 5x^{3}}{X} = \frac{2x^{5}}{X} + \frac{5x^{3}}{X} = 2x^{4} + 5x^{2}$$

_	X	— = ,	X	X	=\(\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	
	8x4 - 3	3x² + 6x -	4			
7	-	6x				
	18x4	3x2	64	Ų		

 $\frac{6x - 6x - 6x - 6x}{3x^3 - \frac{1}{2}x + |x^0 - \frac{2}{3x}|}$

$$\frac{4x^3-3x+1}{x}$$

$$\frac{4x^3}{x}-\frac{3x}{x}+\frac{3x}{x}$$



$$\frac{4x^3}{x} - \frac{3x}{x} + \frac{3}{x}$$

$$4x^2 - 3 + \frac{1}{x}$$









_ ク	χ²	+
		γ

 $5x + 1 + \frac{7}{x}$









 $4x^3-x^2+3$

 $6x^{5}-2x^{4}-1$

 $\frac{6x^5}{x} - \frac{2x^4}{x} - \frac{1}{x}$

 $6\chi^4 - 2\chi^3 - \frac{1}{\chi}$

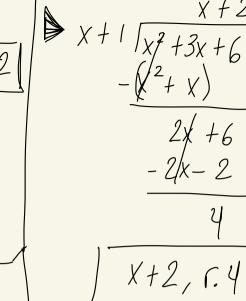
 $\frac{4x^3}{x} - \frac{x^2}{x} + \frac{3}{x}$

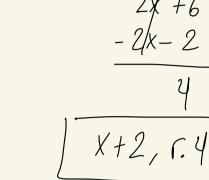
 $4x^2 - x + \frac{3}{x}$

X+1





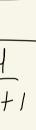




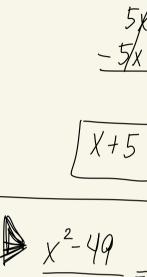


X+2





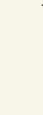


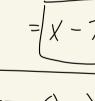


X+7

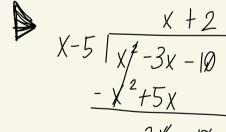
X + 5 $X + 2 \sqrt{x^2 + 7x + 10}$

12 -2X

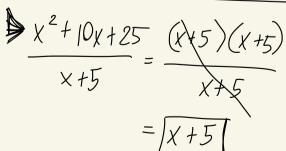




(xX7(x-7)



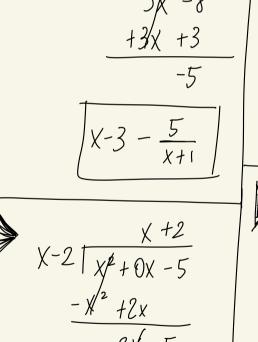
3x-2



$$\frac{-x^{2}+5x}{2x-2x+6}$$

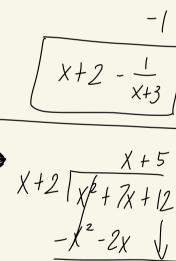
X+2

(x+5)(x+2)



 $- x^2 + 7x + 10$





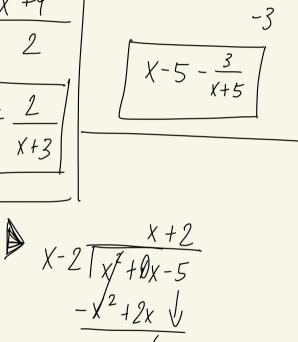


X+5+-

$$\frac{\chi^{2}-7}{\chi+3} = \chi+3 \left[\frac{\chi-3}{\chi^{2}+0\chi-7} - \frac{\chi^{2}-3\chi}{\chi+9} \right]$$

$$= \chi+3 \left[\frac{\chi-3}{\chi+3} + \frac{2}{\chi+3} \right]$$

$$= \chi+1 \left[\frac{\chi-3}{\chi^{2}-2\chi-8} - \frac{\chi-2}{\chi-2} \right]$$

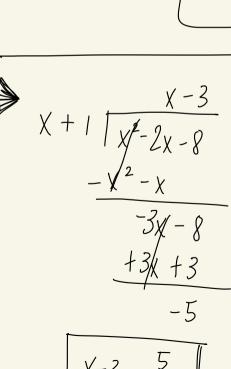


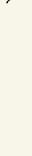
X+2-1/X-2

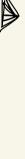
X+5 [x/+0x-28

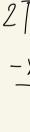
-5/x -28

+ \$x +25









 $\begin{array}{c|c} X-1 & \boxed{\chi} + 0 & +2 \\ -\chi^2 + \chi & \sqrt{} \end{array}$

 $X + 1 + \frac{3}{X-1}$

X + 5 X + 10x - 28 $- X^2 - 5x$ 1,

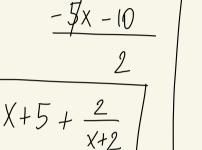
	(

X-3 - 5

X+I

-5

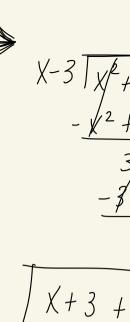
X+1 [x-2x-8

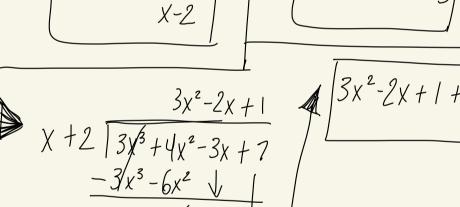


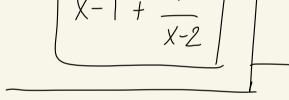
X+2 | x/+ 7x + 12 - x2 - 2x V

$$\begin{array}{c|c} & & & & & & \\ X-2 & & & & & \\ \hline & & & & & \\ & & -X^2 + 2x & \sqrt{} \\ & & & -X + 9 \\ & & & -X + 2 \\ \hline & & & -X - 2 \\ \hline \end{array}$$

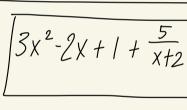
$$\frac{-x+y}{-1/x-2}$$
 $\frac{-x+y}{-1/x-2}$
 $\frac{-x+y}{-1/x-2}$



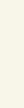
















4x2+11x-3

 $x + 2 \left[\frac{4x^3 + 19x^2 + 19x - 6}{-4x^3 - 8x^2} \right]$

 $\rho(x) = (x+2)(4x^2 + 11x - 3)$

a.b=40-3=-12

4x2+11x-3

a+b= 11

12 - - 12

12-1=11

4x2+ 12x-x-3

(4x2 + 12x) + (-x-3)

4x(x+3)-1(x+3)

(4x-1)(x+3)

p(x) = (4x-1)(x+3)(x+2)

$$\rho(x) = \chi^{3} + 9\chi^{2} - 108$$

$$\chi^{2} + 3\chi - 18$$

$$\chi + 6 \left[\chi^{3} + 9\chi^{2} + 0\chi - 108 \right]$$

$$- \chi^{3} - 6\chi^{2}$$

 $-3\chi^{2}-18\chi$

 $\rho(x) = (x^2 + 3x - 18)(x + 6)$

p(x) = (x+6)(x-3)(x+6)

 $\rho(x) = (2x+3)(x+2)(x+5)$

-18/2 -19/8

$$\int \rho(x) = 2x^{3} + 17x^{2} + 4/x + 30$$

$$2x^{2} + 7x + 6$$

$$2x^{3} + 17x^{2} + 4/x + 30$$

2x2+7x+6

 $\rho(x) = (2x^2 + 7x + 6)(x + 5)$

a.b=2.6=12

a+6=7

4.3=12

4+3=7

 $(2x^2 + 4x) + (3x + 6)$

(2x+3)(x+2)

2x(x+2)+3(x+2)

$$\frac{x}{-x^{2}-7x}$$

$$\frac{+x^{2}+x}{-6x/-6}$$

$$\frac{+6x+6}{+6x+6}$$

$$\rho(x) = (x^{2}-x-6)(x+1)$$

$$\rho(x) = (x-3)(x+2)(x+1)$$

 $\rho(x) = (5x + 1)(x-2)(x-7)$



$$\begin{array}{r}
5x^{2} - 9x - 2 \\
x - 7 \overline{\smash)5x^{8} - 44x^{2} + 61x + 14} \\
- 5x^{3} + 35x^{2} + 61x \\
- 9x^{8} + 61x \\
+ 9x^{2} - 63x \\
- 2x + 14
\end{array}$$

$$\frac{+9x^2-63x}{-2x+14}$$

$$\frac{+2x-14}{0}$$

$$Q(x) = (5x^2-0x-0)(x-3)$$

 $p(x) = (5x^2 - 9x - 2)(x - 7)$ 5x2-9x-2 a.b=50-2=-10 a+6 = - 9 -10.1=-10 -10+1=-9 $\left(5\chi^2 - 10\chi\right) + \left(\chi - 2\right)$

5x(x-2)+1(x-2)

$$\rho(x) = x^3 - 21x - 20$$

$$\rho(x) = x^3 - 21x - 20$$

$$x^2 + 5x + 4$$

$$x - 5 \sqrt{x^2 + 9x^2} = 21x - 20$$

 $p(x) = (x^2 + 5x + 4)(x-5)$

 $\overline{\rho(X)} = (x+4)(x+1)(x-5)$

$$f(x) = x^{2} - 2|x - 20$$

$$x^{2} + 5x + 4$$

$$x - 5 \sqrt{x} \cdot 9 \cdot 2 \cdot 21 = 20$$

Polynomial Remainder Theorem

$$F(x) \rightarrow polynomial divide by x - a \rightarrow conainder F(a)$$

$$f(x) = 3x^2 - 4x + 7$$
 derived by $x - 1$

$$= -1 + 7$$
 $= 6$
 $6 = 6$

$$\rho(x) = -3x^{3} - 4x^{2} + 10x - 7 \quad ; \quad x - 2$$

$$\rho(x)$$

$$Q = 2$$

$$Q = 3$$

$$Q = 4$$

$$Q = 3$$

$$Q = 3$$

$$Q = 4$$

$$Q = 3$$

$$Q = 3$$

$$Q = 4$$

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

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

$$0 = -27 + 9c - 12 + 3$$

$$0 = -36 + 9c$$

$$+36$$

$$\frac{36}{9} = 9c$$

$$\rho(x) = x^3 - 4x^2 + (x + 33)$$

$$\rho(x) = x^{3} - 4x^{2} + (x + 33)$$

$$\rho(-3) = (-3)^{3} - 4(-3)^{2} + ((-3) + 33)$$

$$\rho(-3) = (-3)^3 - 4(-3)^2 + c(-3)^2$$

$$0 = -27 - 4(9) - 3c + 33$$

0 = -27 - 36 - 36 + 33

0 = -30 - 3c

30 = -3c ———/c = -10

- TC=41

$$5x^{2}-14x+8$$

$$x+1 | 5x^{8}-9x^{2}-6x+8$$

$$-5x^{3}-5x^{2} |$$

$$-14x^{2}-6x$$

$$+14x^{2}+14x$$

$$8x+8$$

$$-8x-8$$

$$(x+1)$$

$$\frac{7X + \frac{3}{3}}{4 \times 1}$$

$$\frac{-8x-8}{-8x^2-14x+8}(x+1)$$

$$9.6 = 5.8 = 40$$

$$9+6 = -14$$

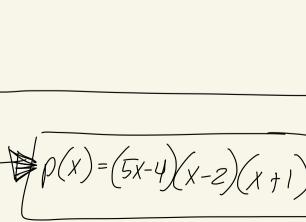
-(0,-4=40

-10-4=-14

 $(5x^2 - 10x)(-4x + 8)$

5x(x-2)-4(x-2)

(5x-4) (x-2)



$$\int \rho(x) = (x+2)(x+2)(x-1)$$

$$\int \rho(x) = 2x^3 - x^2 - 25x - 12$$

$$2x^2 - 7x - 4$$

 $p(x) = (x^2 + 4x + 4)(x-1)$

 $\begin{array}{c|c}
 & 2x^{2} - 7x - 1 \\
 & 2x^{3} - 2x - 25x - 12 \\
 & -2x^{3} - 6x^{2} \\
 & -7x^{2} - 25x \\
 & +7x^{2} + 2/x \\
 & -4x + 12
\end{array}$

 $\frac{-1}{4} + \frac{1}{4} + \frac{$

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

 $-\frac{1}{2}$ 45x

-4/ +14

 $\rho(x) = (2x^2 - 7x - 4)(x + 3)$

a.6=2.-4=-8

a+6=-7

-80 =-8

-8+1=-7

 $(2x^2-8x)+(x-4)$

(2x+1)(x-4)

2x(x-4)+1(x-4)

 $\rho(x) = (2x+1)(x-4)(x+3)$