

$$\frac{\| \begin{matrix} x \\ y \end{matrix} \|}{\| \begin{matrix} 2 \\ 3 \end{matrix} \|}, [-1, 1]$$

$$\vec{m} = (3, 2)$$

$$x = 2 + 3t$$

$$y = 3 + 2t, t \in \mathbb{R}$$

$$y = ax + b$$

$$3 = a \cdot 2 + b$$

$$1 = a \cdot (-1) + b$$

$$ax - y + b = 0$$

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$$y = ax^2 + bx + c$$

$$y_1 = ax_1^2 + bx_1 + c$$

$\sim$   
 $\sigma \sim n$ .

$$X^2 \cdot X^3 = XX \cdot XXX = X^5$$

$$(X^2)^3 = XX \quad XX \quad XX = X^6$$

$$x^2 - a^2 = (x - a) \cdot (x + a)$$

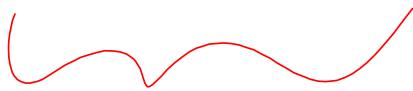
$$x^3 - a^3 = (x - a) \cdot (x^2 + xa + a^2)$$

$$\underline{\underline{[X - (\beta + i\gamma)]}} \cdot \underline{\underline{[X - (\beta - i\gamma)]}} =$$

$$= \cancel{X^2} - \cancel{\beta X} + \cancel{i\gamma X} - \cancel{\beta \cdot X} + \beta^2 - \cancel{i\beta\gamma} - \cancel{i\gamma X} + \cancel{i\beta\gamma} - i^2 \gamma^2 = \boxed{X^2 - 2\beta X + \beta^2 + \gamma^2}$$

$$\sqrt{-100} = \sqrt{100i^2} = \underline{\underline{10i}}$$

$$1x^2 - 3x + 7 = \left(x - \frac{3}{2}\right)^2 - \frac{9}{4} + 7$$



$$= x^2 - 3x + \frac{9}{4}$$

$$4x^4 - 2x^2 + 8x + 15 = (x-3) \cdot Q(x)$$

	4	0	-2	8	15
3	4 $x^2$	$3 \cdot 4 + 0$ 12 $x^1$	$3 \cdot 12 + 2$ 34 $x^0$		$?$ =0

$\downarrow$   
 $Q(x)$



$$15: \pm 1, \pm 3, \pm 5, \pm 15$$

$$4: 1, 2, 4$$

$$\Rightarrow \mathbb{Q} : \frac{1}{1}, \frac{1}{2}, \frac{1}{4}, \frac{-1}{1}, \frac{-1}{2}, \frac{-1}{4}, \frac{3}{1}, \frac{3}{2}, \frac{3}{4}, \dots$$

$$P(x) = (x-1) \cdot \underbrace{(x^3 - 4x^2 - 3x + 18)}_{(x+2)(x^2 - 6x + 9)}$$
$$= (x-1) \cdot (x+2) \cdot (x^2 - 6x + 9)$$

$$\frac{x+1}{\underbrace{(x-2)^3}_{\text{red}} \cdot \underbrace{(x+3)^2}_{\text{green}} \cdot \underbrace{x}_{\text{blue}}} = \frac{A}{(x-2)^3} + \frac{B}{(x-2)^2} + \frac{C}{(x-2)^1} +$$

$$+ \frac{D}{(x+3)^2} + \frac{E}{x+3} + \frac{F}{x} \quad \Big/ \quad (x-2)^3 \cdot (x+3)^2 \cdot x$$

$$\begin{aligned}
 X+1 &= A \cdot (x+3)^3 \cdot x + B \cdot (x-2) \cdot (x+3)^2 \cdot x + C \cdot (x-2)^2 \cdot (x+3)^2 \cdot x + \\
 &+ D \cdot (x-2)^3 \cdot x + E \cdot (x-2)^3 \cdot (x+3) \cdot x + \\
 &+ F \cdot (x-2)^3 \cdot (x+3)^2
 \end{aligned}$$

$$x^0: 1 = (-8) \cdot (9) \cdot F = -72 \cdot F$$

$$x^1: 1 = \dots$$

$$x^5: 0 = \dots$$

$$x=0 \Rightarrow 1 = -72F$$

$$x=3 \Rightarrow -2 = D \cdot (-5)^3 \cdot (-3)$$

$$x=2 \Rightarrow 3 = A \cdot 5^2 \cdot 2$$

$$\frac{P}{Q} = \frac{A}{(X-\alpha)^3} + ?$$
$$\frac{P}{Q} = \frac{P}{Q} + \frac{A}{(X-\alpha)^3} - \frac{A}{(X-\alpha)^3}$$

$$\frac{X+1}{\underbrace{(X^2+1)^2} \cdot \underbrace{(X^2+X+1)} \cdot \underbrace{(X-3)^2}} = \frac{A}{(X-3)^2} + \frac{B}{(X-3)^1} +$$

$$+ \frac{Cx+D}{(X^2+1)^2} + \frac{Ex+F}{(X^2+1)^1} + \frac{Gx+H}{X^2+X+1}$$