1) $[2,3]$, $[-1,1]$

x y

$m = (3,2)$

$x = 2 + 3t$

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

$y = ax + b$

$3 = a \cdot 2 + b$

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

$ax - y + b = 0$

36 $y = ax^2 + bx + c$

$y_1 = ax_1^2 + bx_1 + c$ 3n

$$x^2 \cdot x^3 = xx \cdot xxx = x^5$$

$$(x^2)^3 = xx\ xx\ xx = x^6$$

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

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

$$[x-(\beta+i\gamma)]\cdot[x-(\beta-i\gamma)]=$$

$$=x^2-\beta x+i\gamma x-\beta x+\beta^2-i\beta\gamma$$

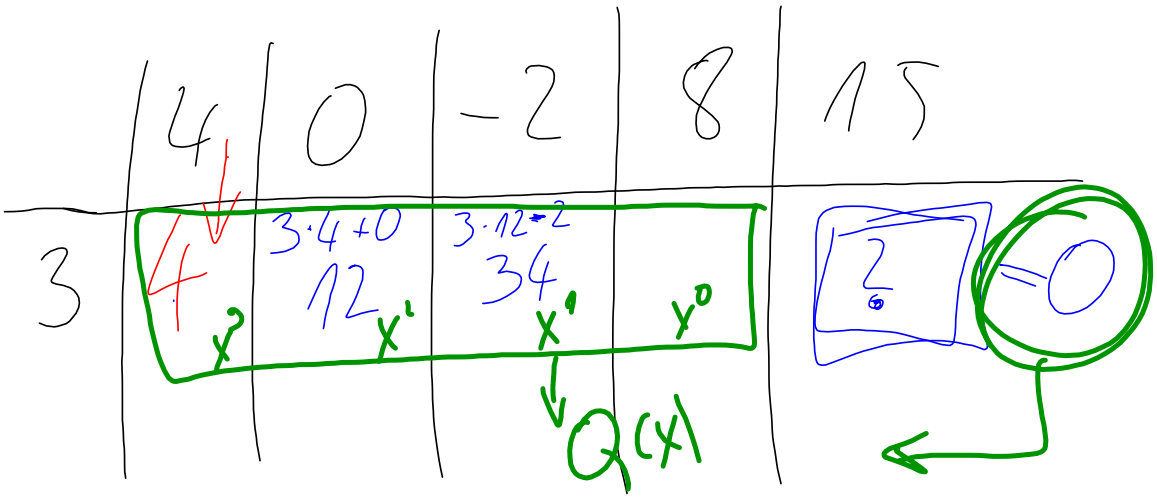
$$-i\gamma x+i\beta\gamma-i^2\gamma^2=x^2-2\beta x+\beta^2+\gamma^2$$

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

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

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

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



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

$4: 1, 2, 4$

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

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

$$= (x-1)\cdot(x+2)\cdot(x^2-6x+9)$$

$$\frac{x+1}{(x-2)^3\cdot(x+3)^2\cdot x} = \frac{A}{(x-2)^3} + \frac{B}{(x-2)^2} + \frac{C}{(x-2)^1} + \frac{D}{(x+3)^2} + \frac{E}{x+3} + \frac{F}{x} \Big/ \cdot (x-2)^3\cdot(x+3)^2\cdot x$$

$$x+1 = A\cdot(x+3)^3\cdot x + B\cdot(x-2)\cdot(x+3)^2\cdot x + C\cdot(x-2)^2\cdot(x+3)^2\cdot x +$$
$$+ D\cdot(x-2)^3\cdot x + E\cdot(x-2)^3\cdot(x+3)\cdot x +$$
$$+ F\cdot(x-2)^3\cdot(x+3)^2$$

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

$x^1: 1 = \dots$

$\vdots$

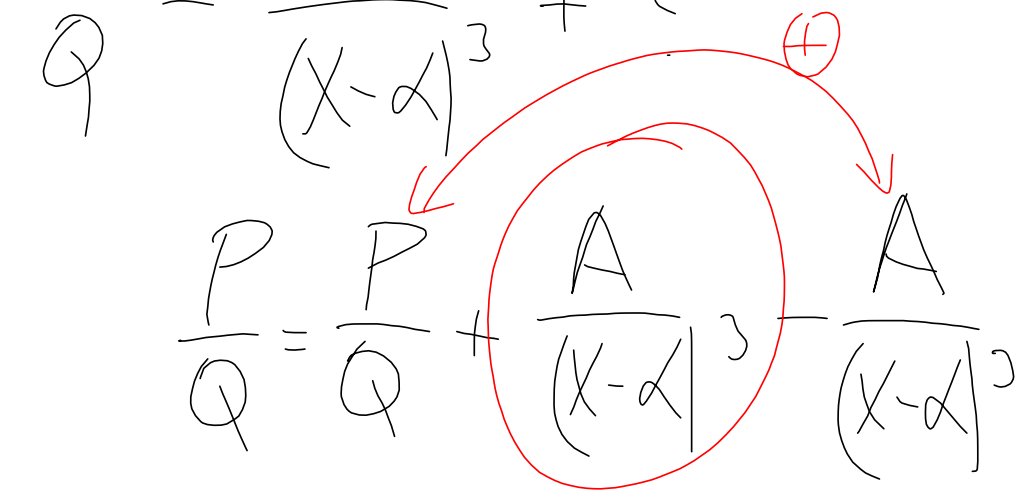
$x^5: 0 = \dots$

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

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

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

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



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

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