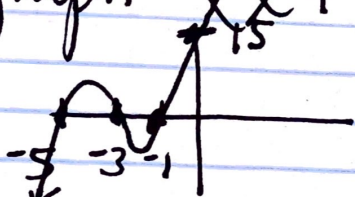


① Find 'K' given $(x^3 - Kx^2 + 15x - 2K) \div (x-4)$
 With remainder -2 .
 $K=7$

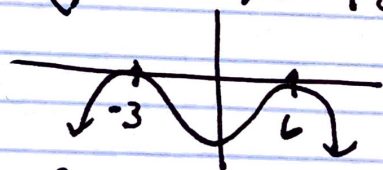
② Factor completely:
 $x^4 + x^3 + xy^3 + y^3 = (x+1)(x+y)(x^2 - xy + y^2)$

③ Solve (\neq graph!): $x^4 - 5x^3 < 6x^2$
 $\{x \mid -1 < x < 0 \text{ or } 0 < x < 6\} / \{x \mid -1 < x < 6, x \neq 0\}$

④ Solve \neq graph: $(x+3)^3 - 4(x+3) = y$
 $x = -1, -3, -5$



⑤ Solve \neq graph: $y = -(x^2 - 3x - 18)^2$
 $x = 6$ (P.R.), -3 (D.R.)



⑥ Solve: $6x^4 - 19x^3 + 41x^2 - 29x - 15 = 0$

$x = \frac{1 \pm 2i}{3}, \frac{1}{2}, \frac{1}{3}$

given roots: $1 + 2i, 1 - 2i \rightarrow x^2 - 2x + 5$
 $6x^2 - 7x - 3 = (\quad)(\quad)$

⑦ Find roots: $(x-2)^3 - 25(x-2) = 0$

$x = 2, 7, -3$

(6) Solve:

$$6x^4 - 19x^3 + 41x^2 - 29x - 15 = 0$$

given root: $1 + 2i$

sum: 2 prod: 5

$$x^2 - 2x + 5 \rightarrow \text{solve } 6x^2 - 7x - 3 = 0$$

$$x = 1 \pm 2i, \frac{3}{2}, -\frac{1}{3}$$

(7) Find roots: $(x-2)^3 - 25(x-2) = 0$

$$x = 2, 7, -3$$

(8) Solve: $x^4 \geq x^3 + 12x^2$

$$\{x \mid x \leq -3 \text{ or } x = 0 \\ \text{or } x \geq 4\}$$

(9) Solve: $2x^4 + x^3 + 5x^2 + 3x - 3$

$$x = \frac{1}{2}, -1, \pm i\sqrt{3}$$