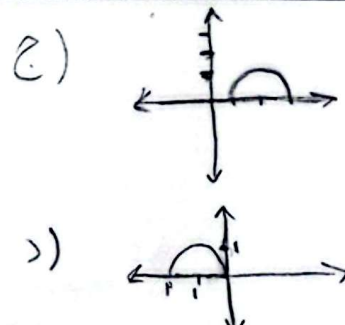
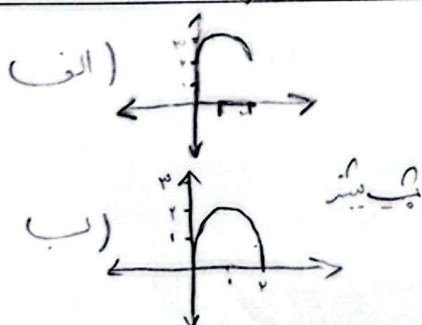
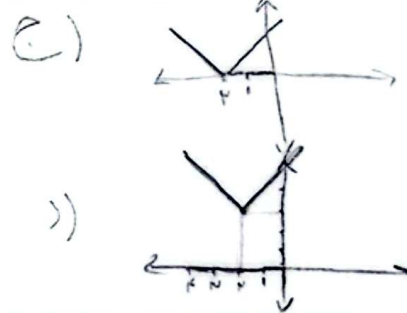
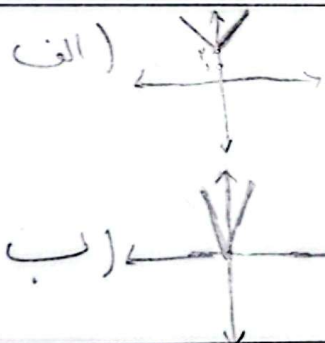


الف) $z_1^3 = 2z_1^2 + 9z_1$ و $\bar{z}_1^3 = 2\bar{z}_1^2 + \bar{z}_1 \rightarrow \bar{z}_1^3 = \bar{z}_1^2 = 1 \rightarrow \bar{z}_1 = z_1$ (تابه) ✓
 ب) $x > 0$ $|z| + 0 = 3 \rightarrow |z| = 3 \rightarrow z = \pm 3$ سین

ج) $x = 3^k$ $z = 3$ (تغییراتی) (شماره ۲۷۰) ✓
 د) $0 = \cos z \rightarrow 0.59, 2.70$ تابع سین X

الف) $x^4 - 4x^3 + 10x^2 - 4x + 1 = 0 \rightarrow x(x^3 - 4x^2 + 10x - 4) = 0 \rightarrow D_f = R - \{0\}$
 ب) $x^4 - 7x^3 + 14x^2 - 7x + 1 = 0 \rightarrow \Delta \rightarrow -15 \rightarrow D_f = R$ (ریشه حقیقی دارد)
 ج) $\Delta \rightarrow -15 \rightarrow D_f = R$
 د) $x^4 - 4x^3 + 10x^2 - 4x + 1 = 0 \rightarrow x^2(x^2 - 4x + 10) = 0 \rightarrow D_f = R - \{0\}$

الف) $(9 - x), (x - 2) \geq 0 \rightarrow 9 \geq x \geq 2 \rightarrow [2, 9] = D_f$
 ب) $x^2 + 1 \leq 0 \rightarrow x \in [-1, 1] \rightarrow D_f = R - \{1, -1\}$
 ج) $x^2 \geq 10$ و $x \leq 4 \rightarrow x \leq 4, x \geq 10 \rightarrow D_f = [2, 100] - \{4\}$
 د) $|x| + x^2 \leq 0 \rightarrow D_f = R - \{0\}$



الف)
$$\frac{-\phi_1 + \phi_2 - \phi_3 + \phi_4}{1}$$

ب)
$$\frac{+\phi_1 - \phi_2 - \phi_3 + \phi_4}{1}$$

الف)
$$\frac{-\phi_1 + \phi_2 - \phi_3 + \phi_4}{1}$$

ب)
$$\frac{+\phi_1 - \phi_2 - \phi_3 + \phi_4}{1}$$

الف)
$$\frac{(x-1)^2(x+2)}{x-3} \rightarrow \frac{+\phi_1 - \phi_2 - \phi_3 + \phi_4}{1}$$

ب)
$$\frac{(x-1)(x-2)}{(x-1)(x-3)} \rightarrow \frac{+\phi_1 + \phi_2 - \phi_3 + \phi_4}{1}$$

الف)
$$\frac{x^2(x^2-1)}{x^2+x+2} \rightarrow \frac{+\phi_1 - \phi_2 - \phi_3 + \phi_4}{1}$$

ب)
$$\frac{x^2+3x+2}{x^2+2x+3} \rightarrow \Delta \rightarrow -\sqrt{\text{...}} = R \frac{-\phi_1 + \phi_2}{1}$$

الف)
$$\frac{x^3-1}{x^3-x} \rightarrow \frac{(x-1)(x^2+x+1)}{x(x-1)(x+1)} \rightarrow \frac{+\phi_1 - \phi_2 + \phi_3}{1}$$

ب)
$$\frac{(x-4)(x+6)}{(x-1)(x+4)} \rightarrow \frac{+\phi_1 - \phi_2 + \phi_3}{1}$$