

① تابع هست. معادله $y'' = 2x^2 + x$ $y = \sqrt[3]{2x^2 + x}$ الف

ب) $y = x + 1 - x^2$ $x=0 \rightarrow y=1$

تابع نیست } $y = -(x+1-x^2) = x^2 - x - 1$ $x=0 \rightarrow y=-1$

ج) $y-1 = -\sqrt{x-1}$ $y = -\sqrt{x-1} + 1$ $x=1 \rightarrow y=0$

تابع نیست } $y-1 = \sqrt{x-1}$ $y = +\sqrt{x-1} + 1$ $x=1 \rightarrow y=2$

د) $x = \cos y$ $x=0 \rightarrow y = 90, 270$ تابع نیست

② الف) $x^2 - 5x + 0 \neq 0$ $x^2 \neq 5x$ $x \neq 5$ $P_f = \mathbb{R} - \{5, 0\}$

$\vec{m}(\vec{n}-5) \neq 0$ $x \neq 0$

ب) $x^2 - 5x + 14 \neq 0$ $\Delta = (-5)^2 - (4 \times 1 \times 14) = 25 - 56 = -31$

$P_f = \mathbb{R}$ لحد تناقض پس جواب ندارد

ج) $x^2 + x + 5 \neq 0$ $\Delta = (1)^2 - (4 \times 1 \times 5) = -19$

$P_f = \mathbb{R}$ لحد تناقض پس جواب ندارد

د) $x^2 - 5x^2 \neq 0$

$x^2 - 5x^2 \neq 0 \rightarrow x \neq 0$ $P_f = \mathbb{R} - \{0\}$

$$\text{الف) } x - 4 \geq 0 \quad x \leq 4$$

(1)

$$x - 2 \geq 0 \quad x \geq 2 \quad Pf = x \leq 4 \cap x \geq 2$$

$$2 \leq x \leq 4$$

$$Pf = [2, 4]$$

$$\text{ب) } x^2 + 1 \neq 0$$

$$x^2 \neq -1 \quad Pf = \mathbb{R}$$

لا يوجد حلاً

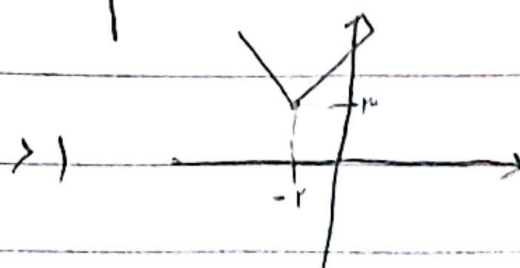
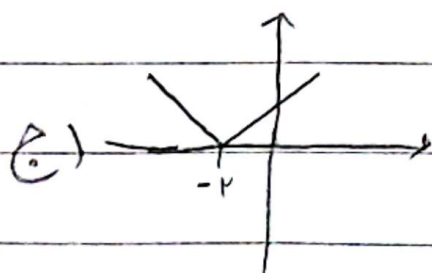
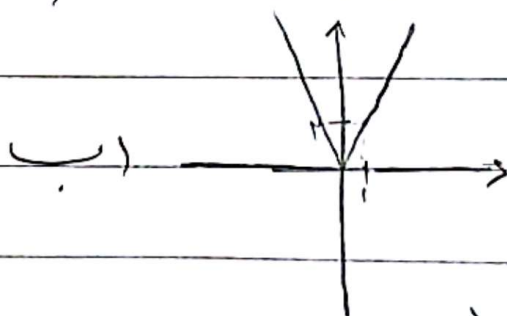
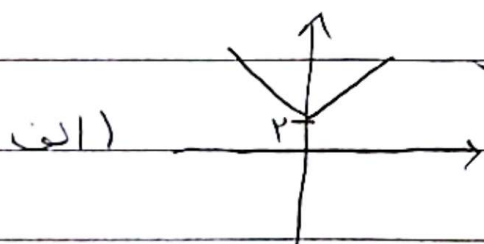
$$\text{ج) } x - 2 \geq 0 \quad x \geq 2 \quad Pf = [2, +\infty) - \{2\}$$

$$x - 5 \neq 0 \quad x \neq 5$$

$$\text{د) } |x| + x^2 = 0 \quad x = x^2 \rightarrow x = 0, 1$$

$$x = -x^2 \rightarrow x = 0, -1$$

$$Pf = \mathbb{R} - \{-1, 0, 1\}$$



PAYCO

DATE:

$$\begin{array}{ccccccc} & & 2 & & 3 & & 4 \\ & & | & & | & & | \\ - & 0 & + & & 0 & - & 0 & + \end{array}$$
$$\begin{array}{ccccccc} & \gamma & & x_2 & & \gamma & \\ + & - & & - & & - & + \end{array}$$

$\begin{array}{ccccccc} & x & & x & & x & \\ & | & & | & & | & \\ - & \phi & + & 0 & - & \phi & + \end{array}$

$\begin{array}{ccccc} & \psi & \psi & \psi & \\ & \downarrow & \downarrow & \downarrow & \\ + & \phi & - & -\phi & + \\ & \downarrow & \downarrow & \downarrow & \\ & \psi & \psi & \psi & \end{array}$

1

ب) $(a+b+c=0) \rightarrow 1, 2$

ج) $(a+b+c=0) \rightarrow 1, 3$

$$\begin{array}{cccc} & 1 & 2 & 3 \\ + & 1 & + & 1 & - & 1 & + \\ \hline & 0 & & 0 & & & \end{array}$$

الف) $x^2(x^2-1) \rightarrow x^2(x+1)(x-1)$

$$\begin{array}{cccc} & -1 & 0 & 1 \\ + & 1 & + & 1 & - & 1 & + \\ \hline & 0 & & 0 & & 0 & \end{array}$$

ب) $x^3-1 \geq 0$

$$\begin{array}{l} x^3-1 \geq 0 \\ x^3-x \\ \hookrightarrow 1, 0, -1 \end{array}$$

$$\begin{array}{cccc} & -1 & 0 & 1 \\ + & 1 & - & 1 & + & 1 & + \\ \hline & 0 & & 0 & & 0 & \end{array}$$

$$Pf = (-\infty, -1) \cup (0, 1) \cup (1, +\infty)$$

$$\begin{array}{l} (x+4)(x-4) \geq 0 \\ (x-1)(x-4) \\ \hookrightarrow 1, 4 \end{array}$$

$$\begin{array}{cccc} & -4 & 1 & 4 \\ + & 1 & - & 1 & + & 1 & + \\ \hline & 0 & & 0 & & 0 & \end{array}$$

$$Pf = (-\infty, -4] \cup (1, 4) \cup (4, +\infty)$$