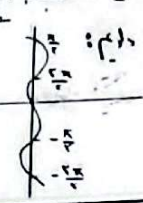
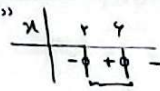
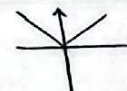
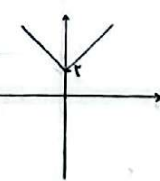
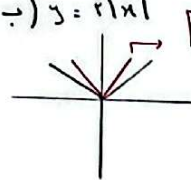
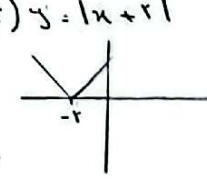
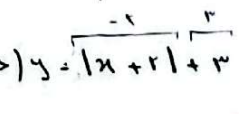
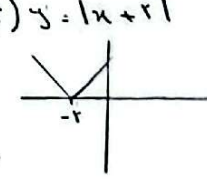
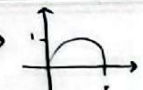


تابع هست $y_1 = 2x_1^2 + x_1^3 \rightarrow y_1 = y_2 = 2x_2^2 + x_2^3$ (الف) تابع نیست $y_1 = -x_1^2 + x_1 + 3 \rightarrow y_1 = y_2 = -x_2^2 + x_2 + 3$ (ب) جمع درجه اولی صفر است پس متعلقه (۲ و ۴) و تابع هست $\sqrt{x-4} + \sqrt{y-2} = 0 \rightarrow$ (ج)	د) $x = \cos y$ اگر مقدار تابع $\cos y$ را باقی بماند بایدی y نسبت به x اول است توجه کنیم داریم:  تابع نیست	۱
(الف) $x^2 - 4x = 0 \rightarrow x(x-4) = 0 \rightarrow x = 0 \text{ یا } x = 4 \Rightarrow D_f = R - \{4, 0\}$ (ب) $x^2 - 7x + 14 = 0 \rightarrow \Delta = b^2 - 4ac = 49 - 98 = -49 < 0 \rightarrow D_f = R$ (ج) $x^2 + x + 4 = 0 \rightarrow \begin{cases} \Delta = b^2 - 4ac \\ \Delta = 1 - 16 = -15 < 0 \end{cases} \rightarrow D_f = R$ د) $x^2(x^2 - 4) = 0 \rightarrow x^2 = 0 \rightarrow x = 0$ یا $x^2 = 4 \rightarrow x = \pm 2 \Rightarrow D_f = R - \{-2, 0, 2\}$		۲
(الف) $4-x \geq 0 \rightarrow x \leq 4$ و $x-2 \geq 0 \rightarrow x \geq 2 \rightarrow D_f = [2, 4]$ (ع ۱) (ب) $x^2 + 1 = 0 \rightarrow x^2 = -1 \rightarrow$ غلط $D_f = R$ (ج) $\begin{cases} x-2 \geq 0 \rightarrow x \geq 2 \\ x-4 = 0 \rightarrow x = 4 \end{cases} \rightarrow D_f = [2, +\infty) \cup \{4\}$ د) $x + x^2 = 0 \rightarrow x = 0 \rightarrow D_f = R - \{0\}$ جمع مقدار ثابتی و هرگاه هم نام صفر		۳
$y = x \rightarrow$  الف $\rightarrow y = x + 2$  ب) $y = 2 x$  ج) $y = x+2$  د) $y = \sqrt{ x+2 } + 3$ 		۴
$f(x) \rightarrow$  الف) $f(x) + 2$  ب) $2f(x)$ ع ۲ ج) $f(x-1)$ د) $-f(x)$		۵

الف) $y = \frac{(x-2)(x-3)(x-4)}{x} \rightarrow$

x	2	3	4
	-	+	-

ب) $y = \frac{(x-2)(x-3)^2(x-4)}{x^2} \rightarrow$

x	2	3	4
	+	-	-

(مضرب)

الف) $y = \frac{(x-2)(x-4)}{x-3} \rightarrow$

x	2	3	4
	-	+	-

ب) $y = \frac{(x-2)(x-4)}{(x-3)^2} \rightarrow$

x	2	3	4
	+	-	-

الف) $y = \frac{x^3 - 3x + 2}{x-2} \Rightarrow \frac{x^3 - 3x + 2}{x-2} = x^2 + 2x - 1$

جميع مضروب صحت $1+2-3=0$ و $x-1$ من $x^3 - 3x + 2$

ب) $y = \frac{x^3 - 3x + 2}{x^2 - 4x + 2} \rightarrow \frac{(x-2)(x-1)}{(x-2)(x-1)} = 1$

ب) $y = \frac{x^3 - 3x + 2}{x^2 - 4x + 2} \rightarrow \frac{(x-2)(x-1)}{(x-2)(x-1)} = 1$

x	1	2	3
	+	+	-

الف) $y = \frac{x^2 - x^2}{x^2 + x + 2} \rightarrow \frac{x^2(x^2 - 1)}{x^2 + x + 2}$

$x^2 = 0 \rightarrow x = 0$
 $x^2 = 1 \rightarrow x = \pm 1$

$\Delta = b^2 - 4ac$
 $\Delta = 1 - 4 = -3$

x	-1	0	1
	+	-	-

ب) $\frac{x^2 + 3x + 4}{x^2 + 2x + 1} \rightarrow \Delta = 9 - 14 = -5 < 0$

$\Delta = b^2 - 4ac = 4 - 12 = -8 < 0$

جميع مضروب صحت $\Delta < 0$ و $\Delta < 0$ و $\Delta < 0$

ب) $\frac{x^2 + 3x + 4}{x^2 + 2x + 1} \rightarrow \Delta = 9 - 14 = -5 < 0$

$\Delta = b^2 - 4ac = 4 - 12 = -8 < 0$

جميع مضروب صحت $\Delta < 0$ و $\Delta < 0$ و $\Delta < 0$

الف) $x^2 - 1 = 0 \rightarrow x^2 = 1 \rightarrow x = \pm 1$

$x^2 - x = 0 \rightarrow x(x-1) = 0 \rightarrow x = 0$
 $x = 1$

x	-1	0	1
	+	-	+

$\Rightarrow (-\infty, -1) \cup (0, 1) \cup (1, +\infty)$

ب) $x^2 - 14 = 0 \rightarrow x^2 = 14 \rightarrow x = \pm \sqrt{14}$

$x^2 - 4x + 4 = 0 \rightarrow (x-2)^2 = 0 \rightarrow x = 2$

x	-2	1	2
	+	-	+

$\Rightarrow (-\infty, -2] \cup (1, 2) \cup (2, +\infty)$