

1912

نام و نام خانوادگی و شماره کلاس ۳۰-۴۰-۵۰

الف) $y^3 - x = 2x^2 \rightarrow y^3 = 2x^2 - x$
 $\rightarrow y = \sqrt[3]{2x^2 - x}$
 چون هر یک از مقادیر x در این معادله حقیقی دارد، پس این تابع حقیقی است.

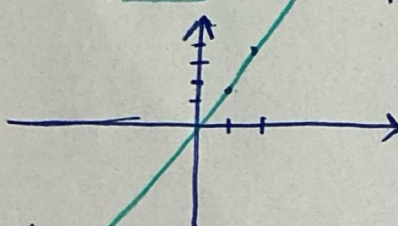
ج) $\sqrt{x-4} + |y-2| = 0 \rightarrow \sqrt{x-4} = 0 \rightarrow x=4 / |y-2|=0 \rightarrow y=2$
 $\rightarrow y=2$
 این یک خط افقی است و در این معادله است.

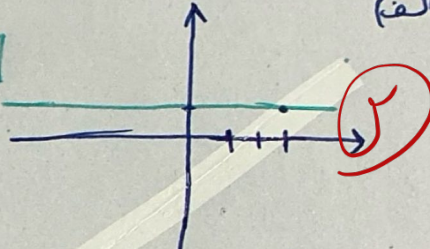
ب) $|y| + x^2 = x + 3 \rightarrow |y| = x + 3 - x^2$
 if $x=0 \rightarrow |y|=3 \rightarrow y=\pm 3$
 این دو دایره را در این معادله است.

د) $x = \cos y$
 if $x=1 \rightarrow \cos y = 1 \rightarrow y=0 (0) / y=2\pi (360)$
 این دو دایره را در این معادله است.

$y = ax + b \Rightarrow y = 2x + b$
 $2 = 2x + b \Rightarrow b = 0 \rightarrow y = 2x$
 جدول:

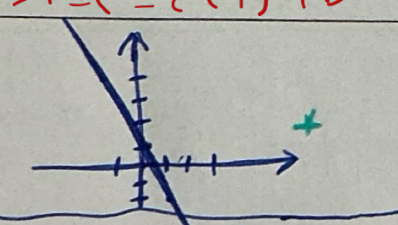
x	0	1	2
y	0	2	4



الف) $y = k$
 $\rightarrow y = 1$

 خطی موازی محور x ها

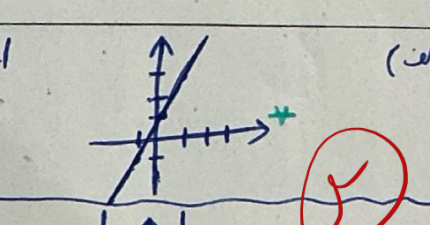
$y = x^2 + ax + b$
 $2 = 1^2 + a(1) + b$
 $\rightarrow 2 = 1 + a + b$
 $\Rightarrow b = 1 - a$
 $a + 2b = -2 + 2(1-a) = -2 + 2 - 2a = -2a$
 $-2a = 1 \rightarrow a = -1/2$
 $b = 1 - (-1/2) = 3/2$
 $y = x^2 - 1/2x + 3/2$
 جدول:

x	0	1	2
y	3/2	2	5/2



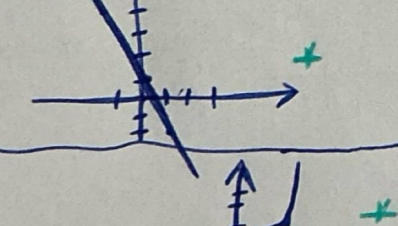
الف) $y = x$
 $\Rightarrow ax + b = x$
 $\Rightarrow a = 1, b = 0$
 $\Rightarrow a + 2b = 1 + 0 = 1$
 $a + 2b = 1$
 جدول:

x	0	1	2
y	0	1	2

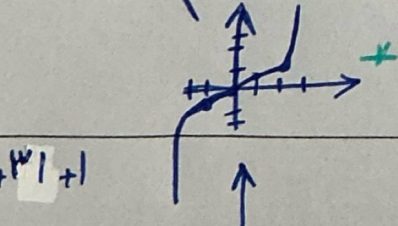


$y = -2x + 1$
 جدول:

x	0	1	2
y	1	-1	-3

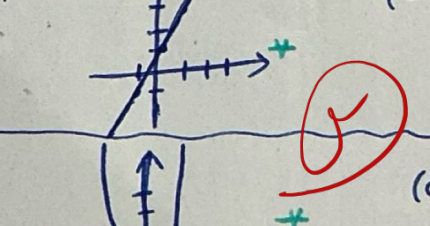

 $y = x^2$
 جدول:

x	0	1	2
y	0	1	4

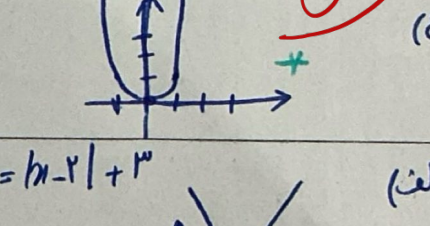


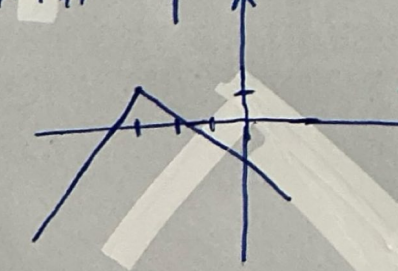
الف) $y = 2x + 1$
 جدول:

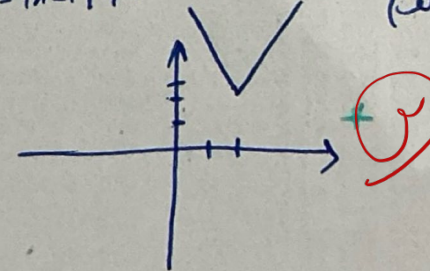
x	0	1	2
y	1	3	5


 ج) $y = x^2$
 جدول:

x	0	1	2
y	0	1	4



$y = -(x+3) + 1$


الف) $y = |x-2| + 3$


$$y = \frac{x+f}{x^2 - vx + 19} \quad \Delta = b^2 - 4ac \quad \Delta C = 49 - 4f = -\Delta$$

ان عدد ریشه ها زوج است

$$\Rightarrow D_f = \mathbb{R}$$

$$y = \frac{x+f}{x^2 - vx} \Rightarrow x^2(x^2 - f) = x^2(x+v)(x-v) \neq 0$$

$$\Rightarrow x \neq 0, v, -v \Rightarrow D_f = \mathbb{R} - \{0, v, -v\}$$

$$1) y = \sqrt{4-x} + \sqrt{x-2} \Rightarrow 4-x \geq 0 \rightarrow x \leq 4$$

$$x-2 \geq 0 \rightarrow x \geq 2$$

$$\Rightarrow 2 \leq x \leq 4 \Rightarrow D_f = [2, 4]$$

$$2) y = \frac{v^2x + v}{|x| + x^2} \quad |x| + x^2 \neq 0 \Rightarrow \begin{matrix} + \\ - \\ \odot \end{matrix} \checkmark$$

$$\Rightarrow D_f = \mathbb{R} - \{0\}$$

$$y = \frac{x+f}{x^2 - vx}$$

$$x^2 - vx \neq 0 \Rightarrow x(x-v) \neq 0$$

$$\rightarrow x \neq 0, v \Rightarrow D_f = \mathbb{R} - \{0, v\}$$

$$y = \frac{x+f}{x^2 + x + f} \Rightarrow \Delta = b^2 - 4ac \quad \Delta C = 1 - 4f = \Delta$$

ان عدد ریشه ها زوج است

$$D_f = \mathbb{R}$$

$$\Rightarrow y = \frac{1-x+1}{x^2+1} \Rightarrow x^2+1 \neq 0$$

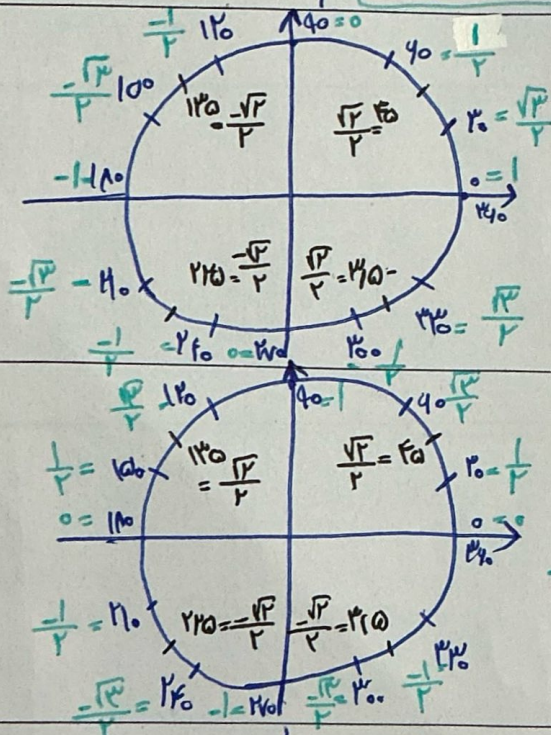
$$\Rightarrow x^2 \geq 0$$

$$\Rightarrow D_f = \mathbb{R}$$

$$3) y = \frac{\sqrt{x-2}}{x-f} \Rightarrow x-2 \geq 0 \rightarrow x \geq 2$$

$$x-f \neq 0 \rightarrow x \neq f$$

$$D_f = [2, f) \cup (f, +\infty)$$



$$\cos \frac{11\pi}{9} = \frac{\sqrt{3}}{2}$$

$$\hookrightarrow \cos \theta = \frac{\sqrt{3}}{2}$$

$$\sin \theta = \frac{\sqrt{3}}{2} \Rightarrow \theta = \frac{\pi}{3}, \frac{2\pi}{3}$$

(120°) (60°)

$$\cos \frac{2\pi}{3} = -\frac{1}{2}$$

$$\hookrightarrow \cos \theta = -\frac{1}{2}$$

$$\sin \theta = \frac{1}{2} \Rightarrow \theta = \frac{2\pi}{3}, \frac{3\pi}{2}$$

(120°) (180°)