

$$x^2 - \{x + 3\} = 0 \Rightarrow (x-1)(x-3) = 0$$

↓
(-1)(-3)

$$\Rightarrow \boxed{x=1} \quad \checkmark$$

$$\Rightarrow \boxed{x=3} \quad \checkmark$$

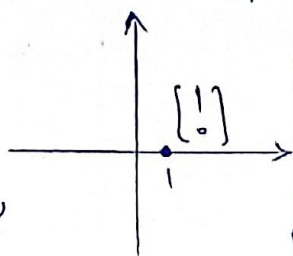
$$x = \{1, 3\}$$

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$$|y| + \sqrt{x-1} = 0$$

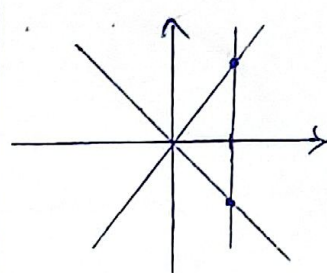
$$\boxed{y=0} \quad \boxed{x=1}$$

نسب تابع است.



(ب)

$$|y| = |x|$$



(الف)
خط موازی با محور y ها
در دو نقطه قطع کرده
نسب تابع نیست.

۲

$$(الف) |y-1| = \sqrt{x-2}$$

$$x=3 \rightarrow \begin{cases} y=2 \\ y=0 \end{cases}$$

$$(ج) \sin^2 x + \cos^2 \frac{y}{2} = 1$$

$$x=0 \rightarrow \begin{cases} y=0 \\ y=2\pi \end{cases}$$

$$(ب) y^2 - y = \frac{x^2}{2}$$

$$y(y-1) = \frac{x^2}{2} \xrightarrow{x=0} \begin{cases} y=0 \\ y=\pm 1 \end{cases}$$

$$y(y^2+1)(y+1)(y-1) = 0$$

$$(د) 2xy = x$$

$x=0 \rightarrow$ برای y با سه مقدار وجود دارد.

۳

$$y^2 + 3x = 0$$

(ب)

$$y_1^2 + 3x_1 = 0$$

$$y_2^2 + 3x_2 = 0$$

$$\left. \begin{matrix} y_1^2 + 3x_1 = 0 \\ y_2^2 + 3x_2 = 0 \end{matrix} \right\} \xrightarrow{x_1=x_2} y_1^2 = y_2^2$$

$$\boxed{y_1 = y_2}$$

نسب تابع هست.

$$x^2 + |y-1| = 4x$$

(الف)

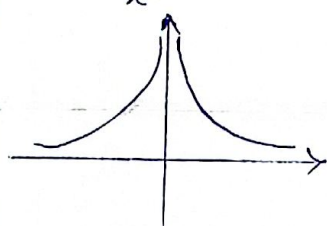
$$|y-1| = 4x - x^2$$

$$x \leq 1 \rightarrow \begin{cases} y=2 \\ y=0 \end{cases}$$

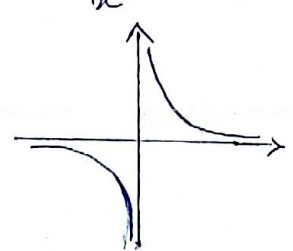
نسب تابع نیست.

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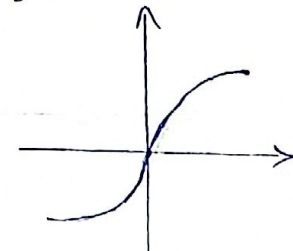
$$y = \frac{1}{x^2} \quad (د)$$



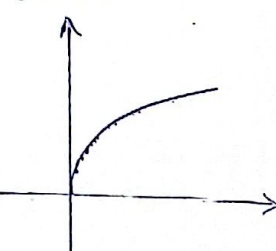
$$y = \frac{1}{x^3} \quad (ج)$$



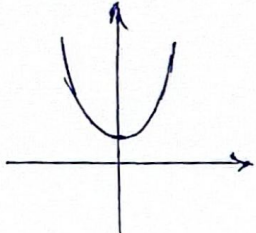
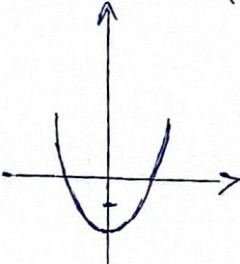
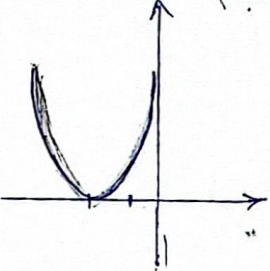
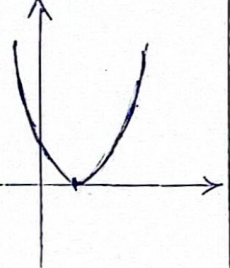
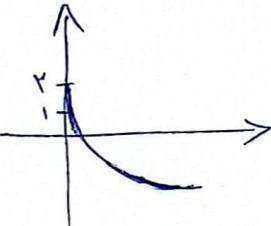
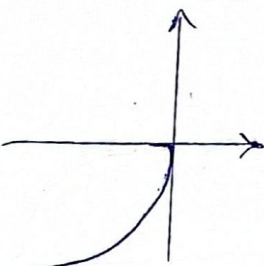
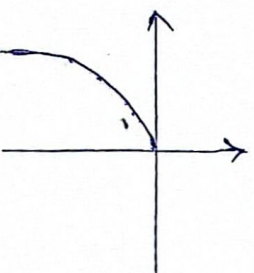
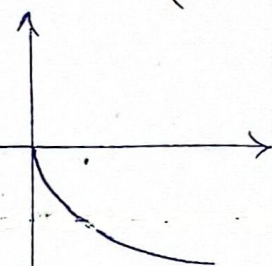
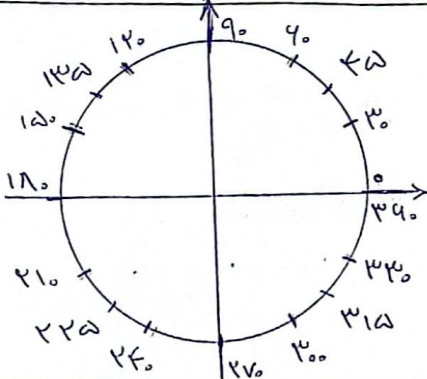
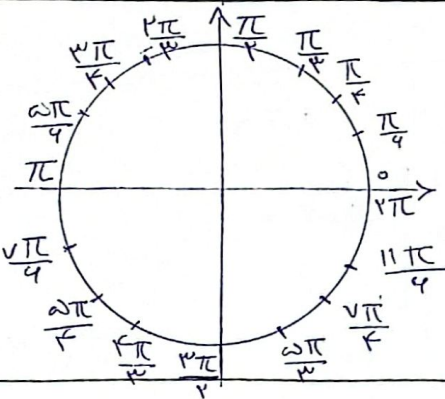
$$y = \sqrt{x} \quad (ب)$$



$$y = \sqrt[3]{x} \quad (الف)$$



۵

	(ج) 	(ب) 	(الف) 	٦
(د) 	(ج) 	(ب) 	(الف) 	٧
				٨
				٩
الف) $\cos 120^\circ = -\frac{1}{2}$		ب) $\sin 150^\circ = \frac{1}{2}$		١٠
ج) $\cos \frac{2\pi}{3} = -\frac{1}{2}$		د) $\sin \frac{11\pi}{4} = -\frac{1}{2}$		