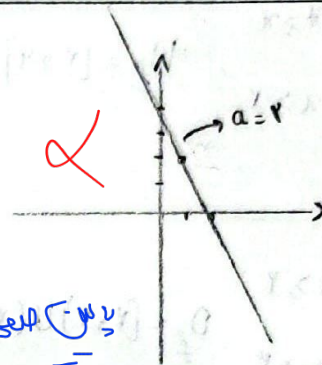
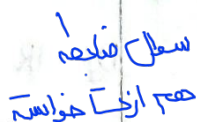


✓) $x = \cos y \Rightarrow x = 0 \rightarrow \cos y = 0$
 $\Rightarrow \begin{cases} y = 90^\circ \\ y = 270^\circ \end{cases}$
 تابع نیست.

تابع مست.



$\hookrightarrow a + r b = -r + r(a) = 4$

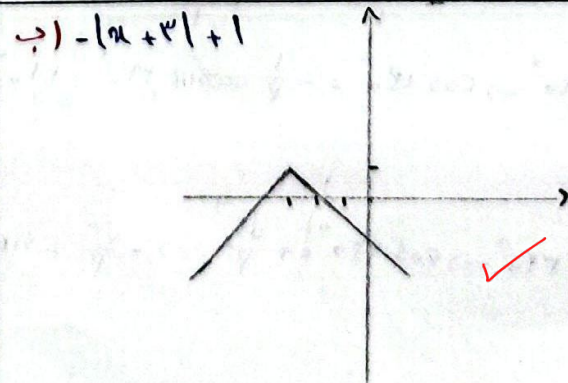
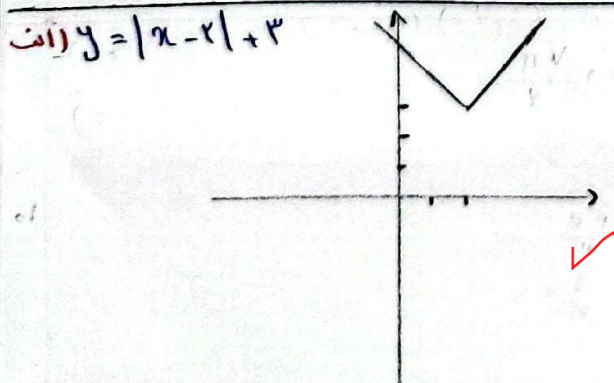
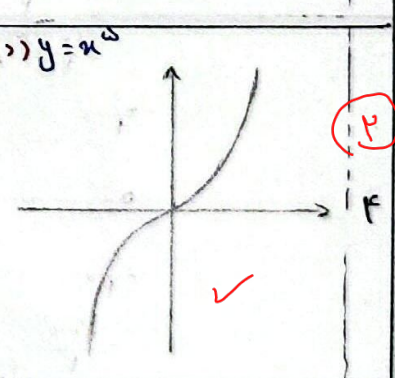
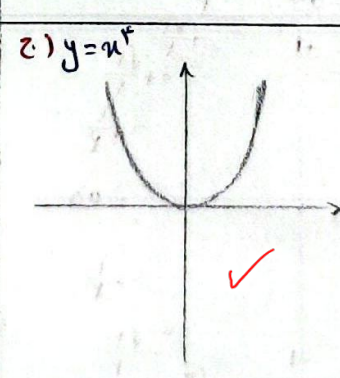
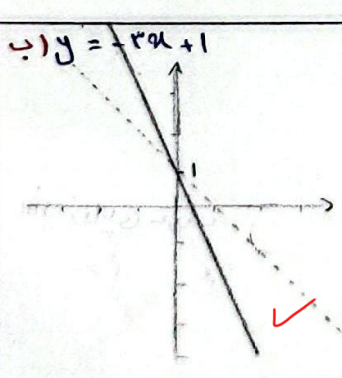
$y = \underset{a}{r^2} + \underset{b}{a}x + \underset{c}{b}$

$-\frac{b}{ra} = r \rightarrow -\frac{b}{r} = r \Rightarrow b = -r$

$-\frac{\Delta}{fa} = 1 \rightarrow -\frac{b^2 - 4ac}{f} = 1 \rightarrow 14 - 4c = -4 \rightarrow -4c = -18$

$\Rightarrow c = \frac{9}{2}$

★ در تابع هسانی a (میب) برابر 1 و b (عرفی از مبدأ) برابر 0 است.



الف) $\frac{x+4}{x^2-4x}$ $x^2-4x=0 \rightarrow (x-4)x=0 \Rightarrow \begin{cases} x=4 \\ x=0 \end{cases}$

$D_f = \mathbb{R} - \{4, 0\}$

ب) $\frac{x+4}{x^2-7x+14}$ $x^2-7x+14 \rightarrow \Delta < 0$ (دایره ندارد)

$D_f = \mathbb{R}$

ج) $\frac{x+4}{x^2+x+4}$ $x^2+x+4 \rightarrow \Delta < 0$ (دایره ندارد)

$D_f = \mathbb{R}$

د) $\frac{x+4}{x^2-4x^2}$ $x^2-4x^2=0 \rightarrow x^2(x-4)(x+4)$

$D_f = \mathbb{R} - \{-4, 0, 4\}$

الف) $\sqrt{4-x} + \sqrt{x-2}$

$\begin{cases} 4-x \geq 0 \rightarrow x \leq 4 \\ x-2 \geq 0 \rightarrow x \geq 2 \end{cases}$

$D_f = [2, 4]$

ب) $\frac{2x+1}{x^2+1} \rightarrow$ مخرج $\neq 0$

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

$D_f = \mathbb{R}$

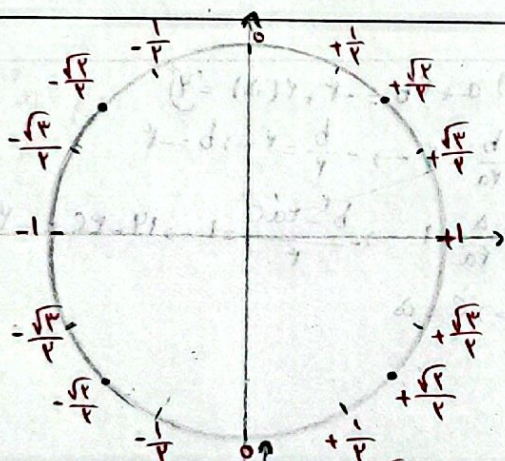
ج) $\frac{\sqrt{x-2}}{x-4}$

$\begin{cases} x-2 \geq 0 \rightarrow x \geq 2 \\ x-4 \neq 0 \rightarrow x \neq 4 \end{cases}$

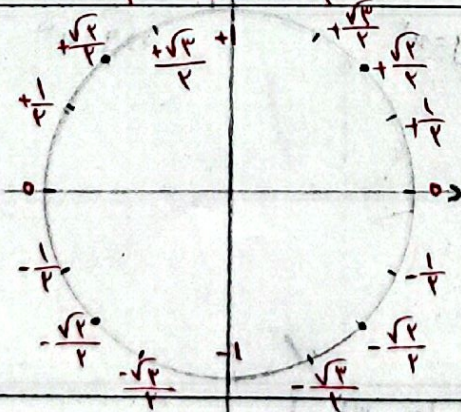
$D_f = [2, 4) \cup (4, +\infty)$

د) $\frac{2x+3}{|x|+x^2}$ مخرج $\neq 0$

$\frac{|x|}{\geq 0} + \frac{x^2}{\geq 0} = 0 \rightarrow x=0$ $D_f = \mathbb{R} - \{0\}$



cos زوایای معروف



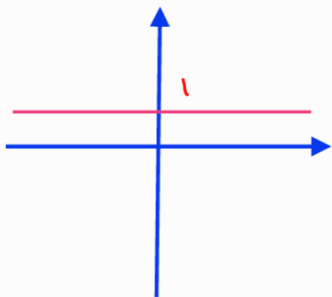
sin زوایای معروف

الف) $\frac{2\pi}{4} \rightarrow 180^\circ \Rightarrow \cos 180^\circ = -\frac{1}{2} \Rightarrow +\frac{1}{2} = \sin \frac{\pi}{4}, \frac{5\pi}{4}$

ب) $\frac{11\pi}{4} \rightarrow 330^\circ \Rightarrow \cos 330^\circ = +\frac{\sqrt{3}}{2} \Rightarrow -\frac{\sqrt{3}}{2} = \sin \frac{5\pi}{3}, \frac{7\pi}{3}$

۲-

$$\underline{y=1}$$



الف) تابع نسبت گذرا از نقطه ۲

ب) تابع خطی گذرا از نقطه ۲ با شیب ۲ واحد

$$y = ax + b \xrightarrow[\text{جابجایی (۱, ۲)}]{a=2} 2(1) + b = 2 \Rightarrow b=0$$

$$\Rightarrow y = 2x$$

