

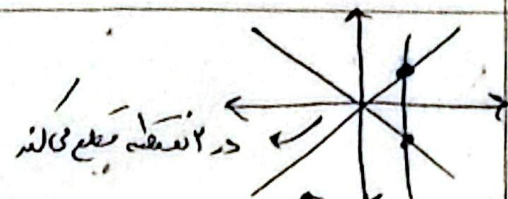
$f = \{(1, 4a), (1, a^2, 3), (2, 3a)\} \rightarrow a^2 + 3 = 4a \Rightarrow a^2 - 4a + 3 = 0 \Rightarrow (a-1)(a-3) = 0 \Rightarrow \begin{cases} a=1 \\ a=3 \end{cases}$

دایره اول مشترک

$\{(1, 4), (2, 3)\} / \{(1, 12), (2, 9)\}$

$a=1 \quad a=3$

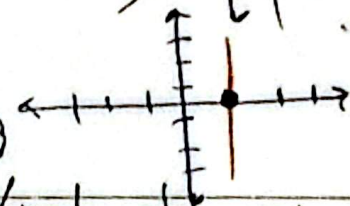
الف) $|a| \leq |a| \Rightarrow \frac{y \leq a}{y \leq -a}$
تابع نیست



ب) $|y| + \sqrt{x-1} = 0$
دوستان مثبت حاصل می‌شود

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

$x=1$
تابع است



الف) $|y-1| = \sqrt{x-2} \Rightarrow x=2$
تابع نیست

ب) $y^2 - y = \frac{x^2}{y} \Rightarrow y^3 - y^2 = x^2 \Rightarrow y(y^2 - y) = 0 \Rightarrow y=0 \text{ or } y=1$

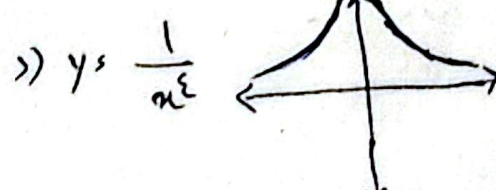
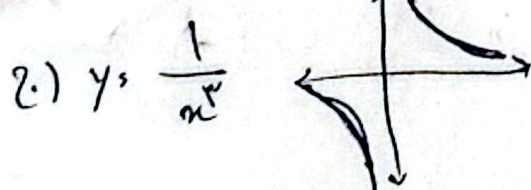
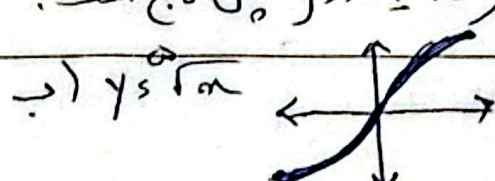
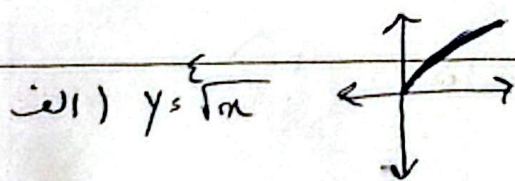
ج) $\sin^2 \frac{y}{x} + \cos^2 \frac{y}{x} = 1 \Rightarrow \cos^2 \frac{y}{x} = 1 \Rightarrow \frac{y}{x} = 0 \text{ or } \frac{y}{x} = \pi$
تابع نیست

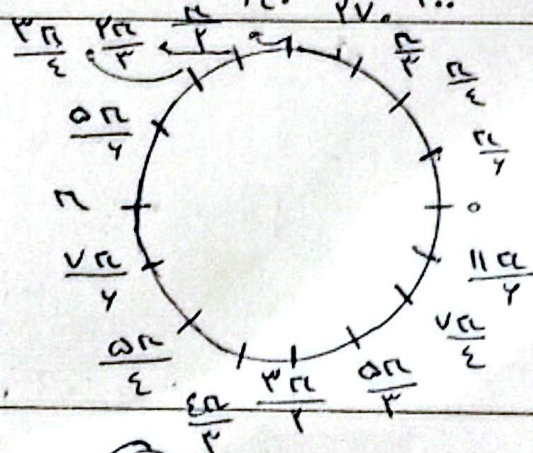
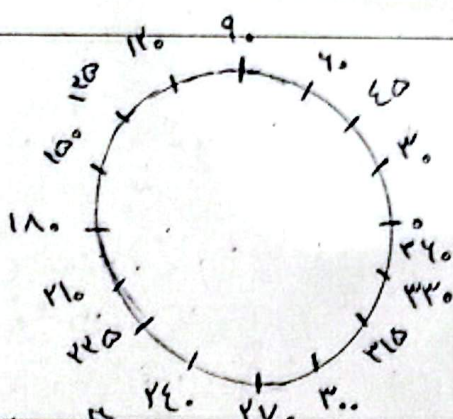
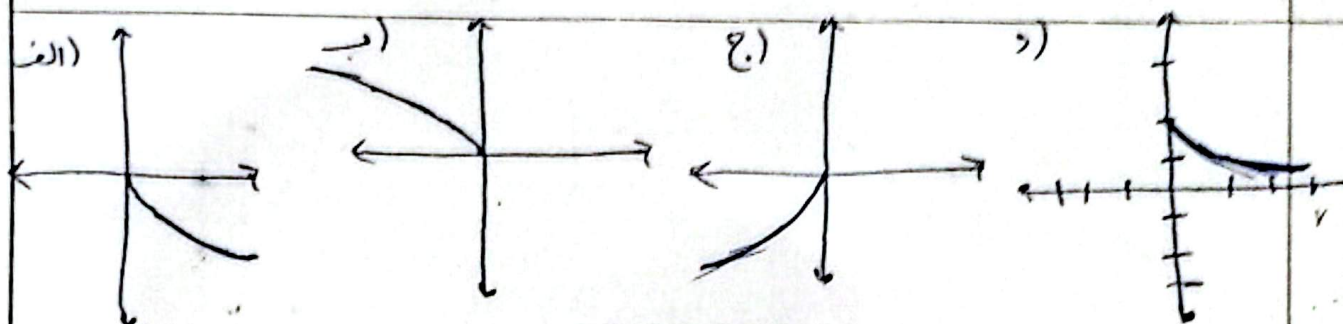
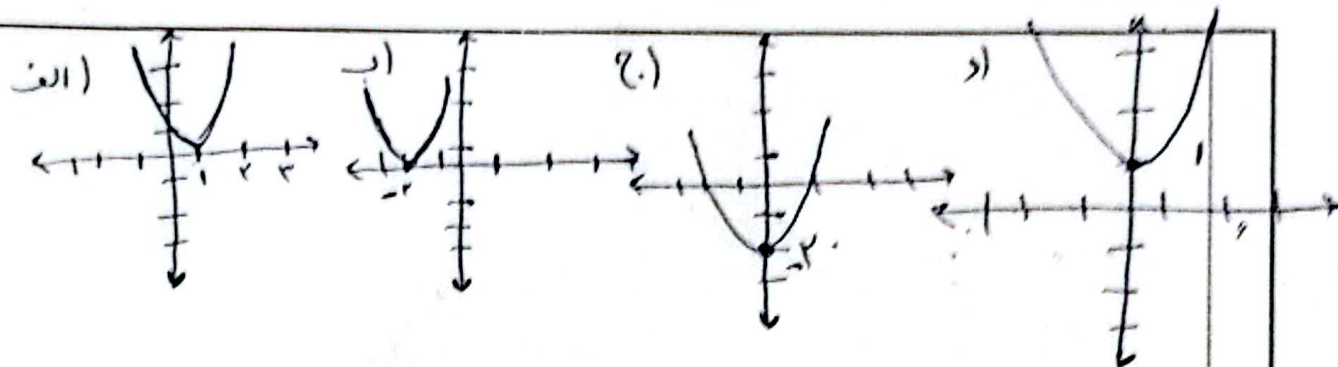
د) $2xy = x \Rightarrow x=0 \text{ or } y=0.5$
تابع نیست

الف) $x^2 + |y-1| = 4x \Rightarrow |y-1| = 4x - x^2 \Rightarrow y-1 = \pm(4x - x^2) \Rightarrow y = 1 \pm (4x - x^2)$
تابع نیست به ازای x دو مقدار y دارد

ب) $y^2 + 3x = 0 \Rightarrow y^2 = -3x \Rightarrow y = \pm \sqrt{-3x}$

به ازای x مقدار y پس تابع است.





الف) $\cos 120^\circ = -\frac{1}{2}$

ب) $\sin 150^\circ = \frac{1}{2}$

ج) $\cos \frac{5\pi}{3} = \frac{1}{2}$

د) $\sin \frac{11\pi}{4} = -\frac{1}{2}$