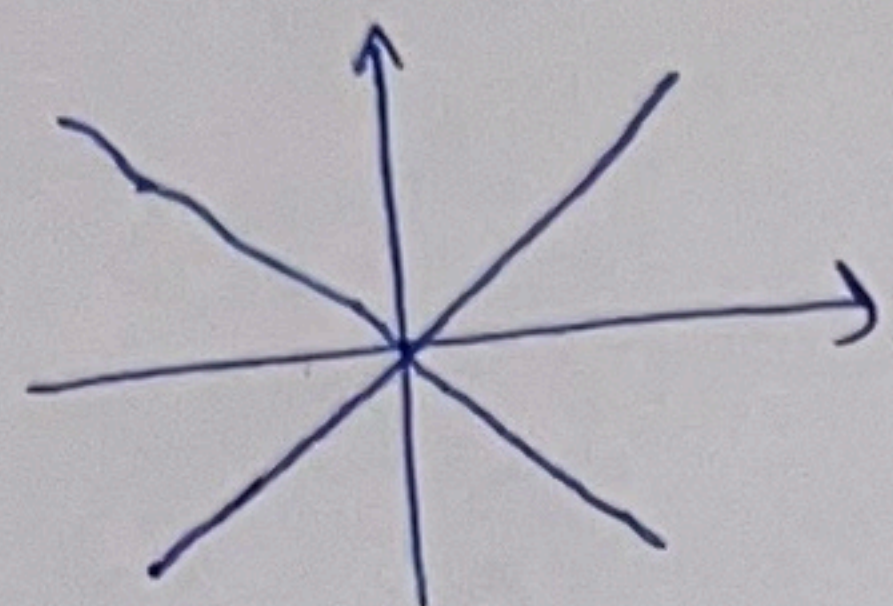


~~الف~~ $f = \{(a, 2a), (1, a^2+3), (2, a)\}$

برای اینکه تابع ~~یک به یک~~ باشد باید در این سه دایره هم باشد زمانی که در این سه دایره اول برابر بود.

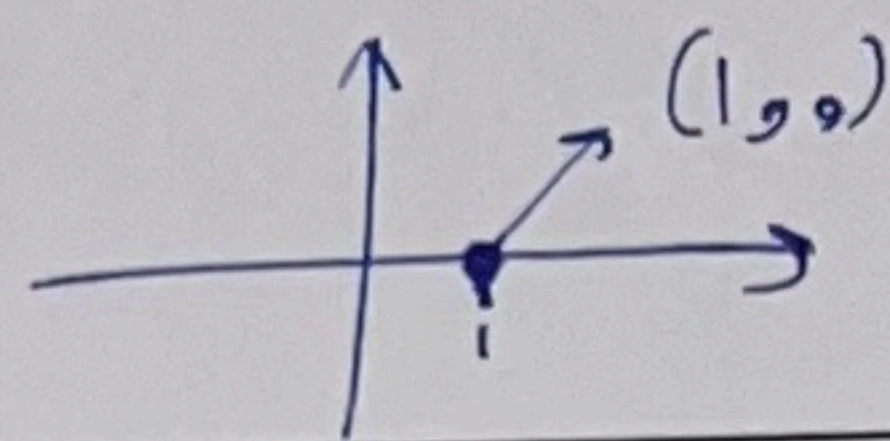
$2a = a^2 + 3 \Rightarrow a = a^2 - 2a + 3 \Rightarrow a = (a-2)(a-1)$ $a \in \{1, 2\}$

الف)



تابع نیست

ب) $|y| + \sqrt{n-1} = 0 \Rightarrow y=0, n=1$
 $0+0=0$



الف) $|y-1| = \sqrt{n-2} \Rightarrow n=2 \Rightarrow |y-1| = 0 \Rightarrow y=1$ تابع نیست
 $|y-1| = \sqrt{4} \Rightarrow |y-1| = 2 \Rightarrow y=3 \text{ یا } y=-1$

ب) $y^2 - y = \frac{n^2}{2} \Rightarrow n=0 \Rightarrow y^2 - y = 0 \Rightarrow y=0 \text{ یا } y=1$ تابع نیست

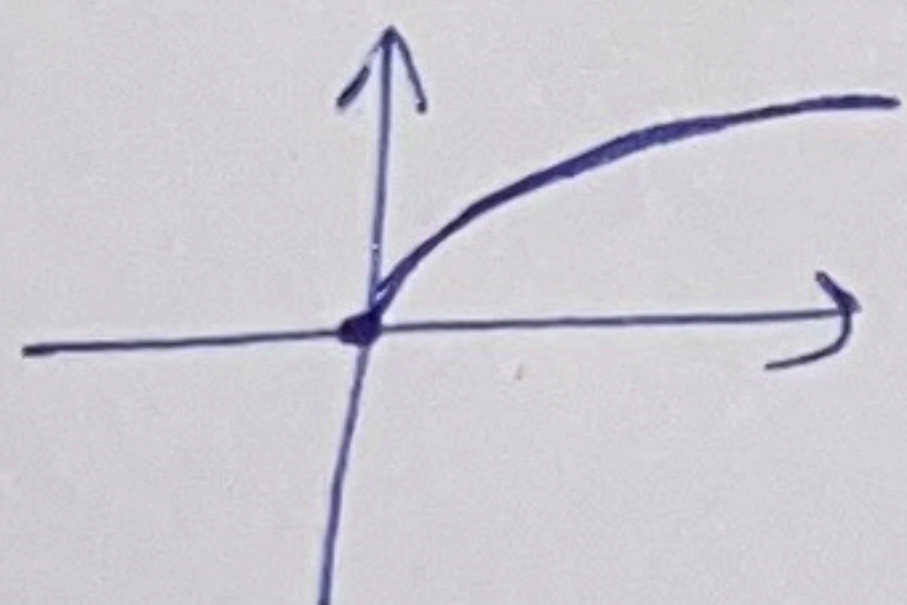
تابع نیست $\sin^2 n + \cos^2 \frac{y}{2} = 1 \Rightarrow n=90 \Rightarrow 1 + \cos^2 \frac{y}{2} = 1 \Rightarrow \cos^2 \frac{y}{2} = 0 \Rightarrow y=180 \text{ یا } y=360$

د) $2ny = n \Rightarrow n = \frac{1}{2} \times 2y = y \Rightarrow y = \mathbb{R}$ تابع نیست

الف) $n^2 + |y-1| = 4n \Rightarrow n=1 \Rightarrow |y-1| = 3 \Rightarrow y=4 \text{ یا } y=-2$ تابع نیست
شان نقض

ب) $y^2 + 2n = 0 \Rightarrow \begin{cases} y_1^2 + 2n_1 = 0 \\ y_2^2 + 2n_2 = 0 \end{cases} \Rightarrow n_1 = n_2 \Rightarrow y_1^2 = y_2^2 \Rightarrow y_1 = y_2$ تابع است
تعریف ریاضی

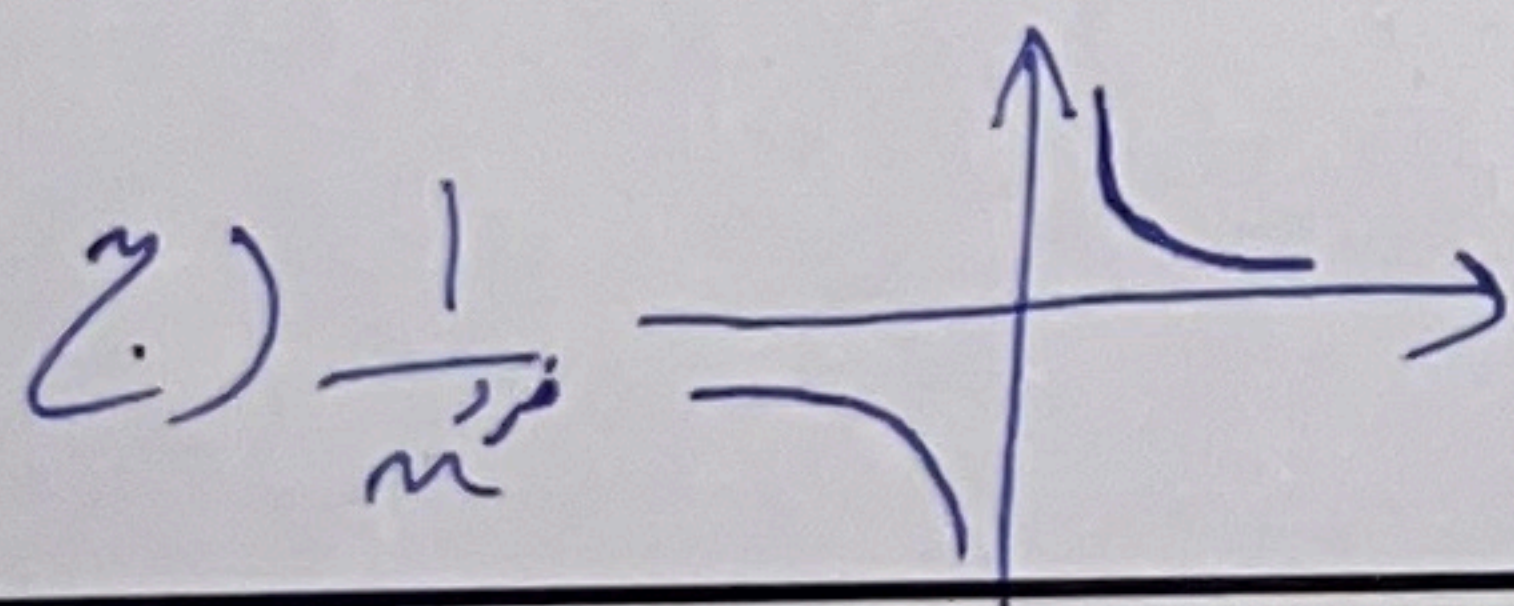
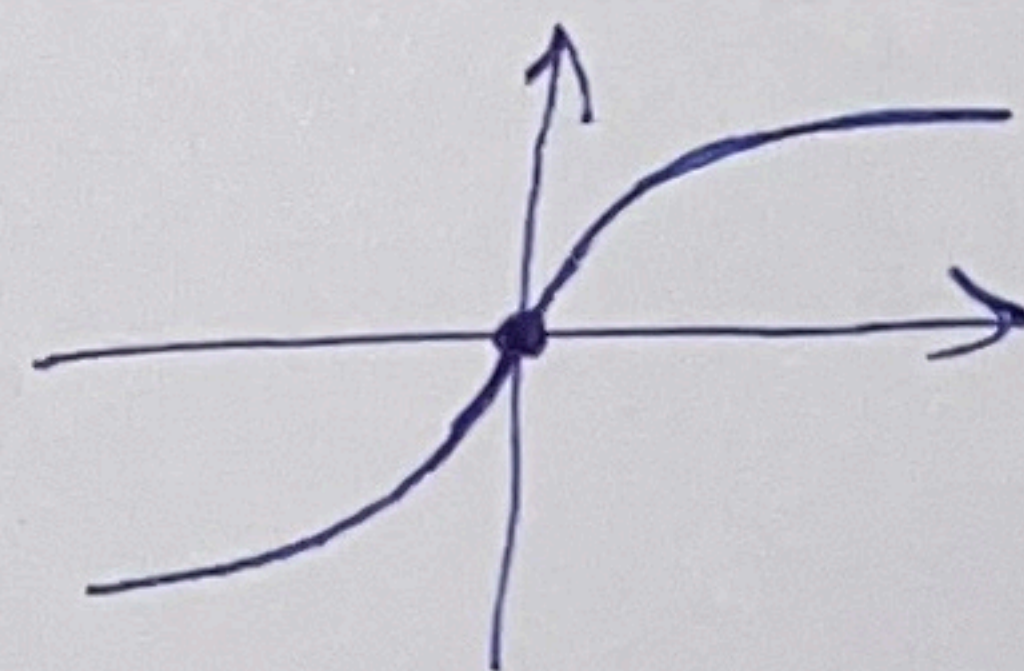
الف)



$\sqrt{x}$ زوج

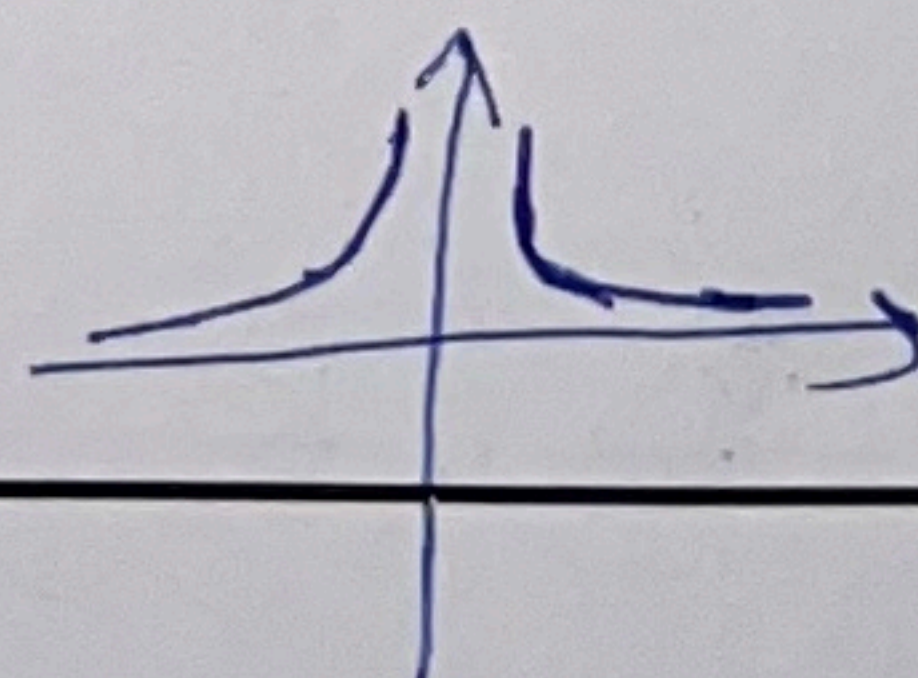
ب)

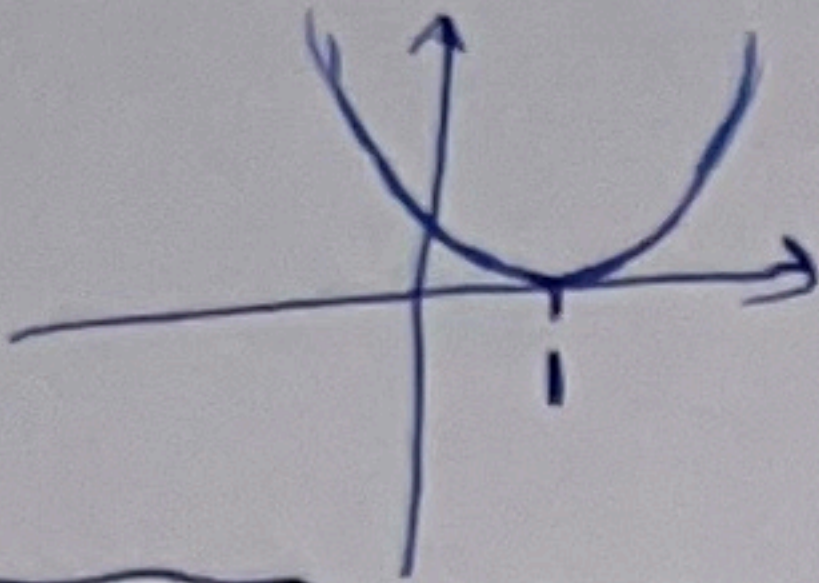
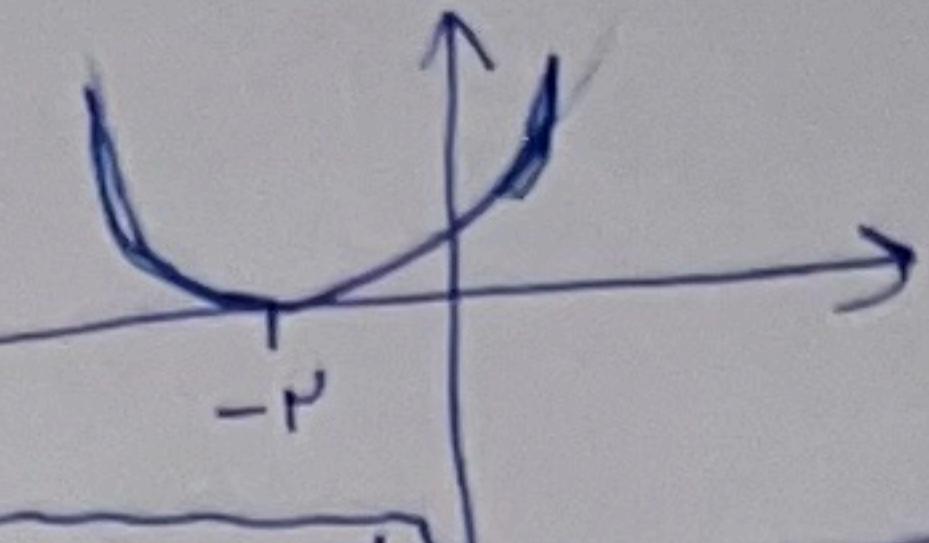
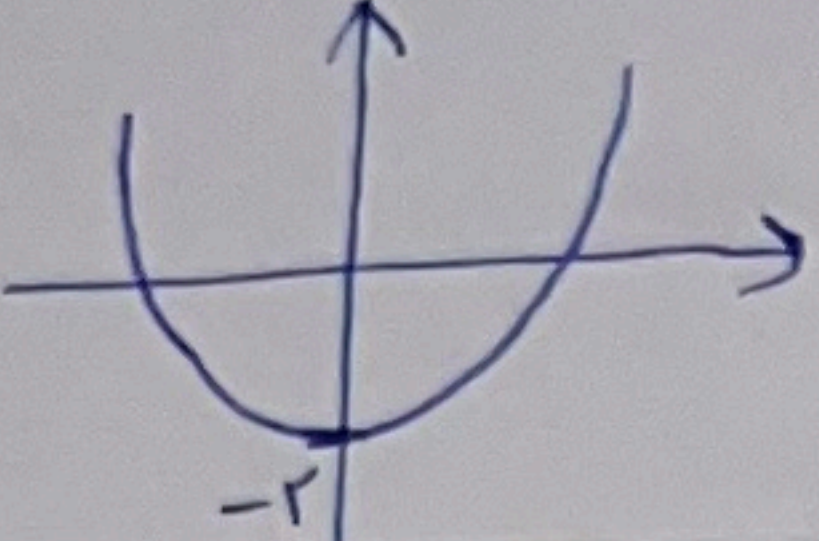
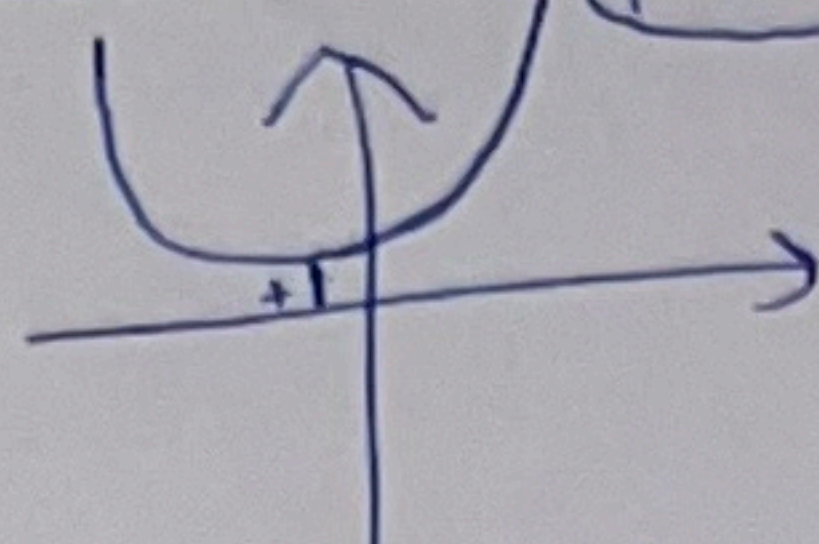
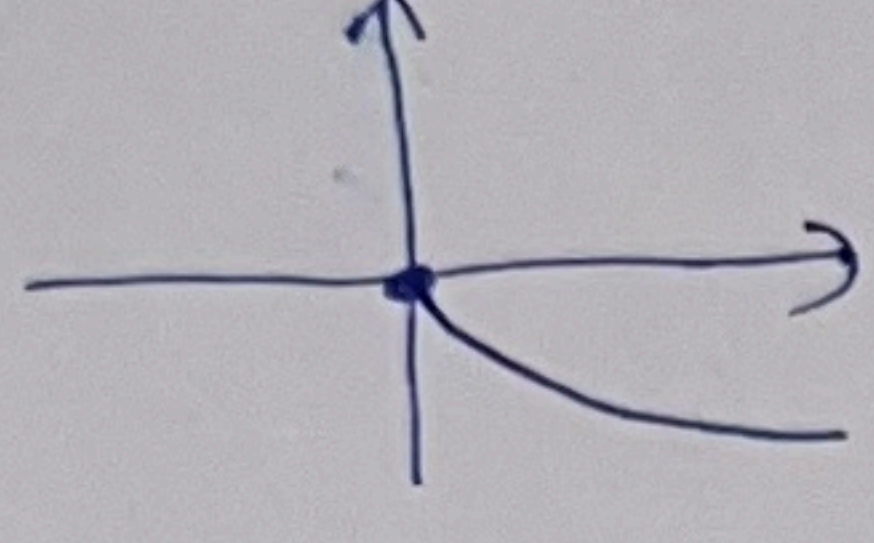
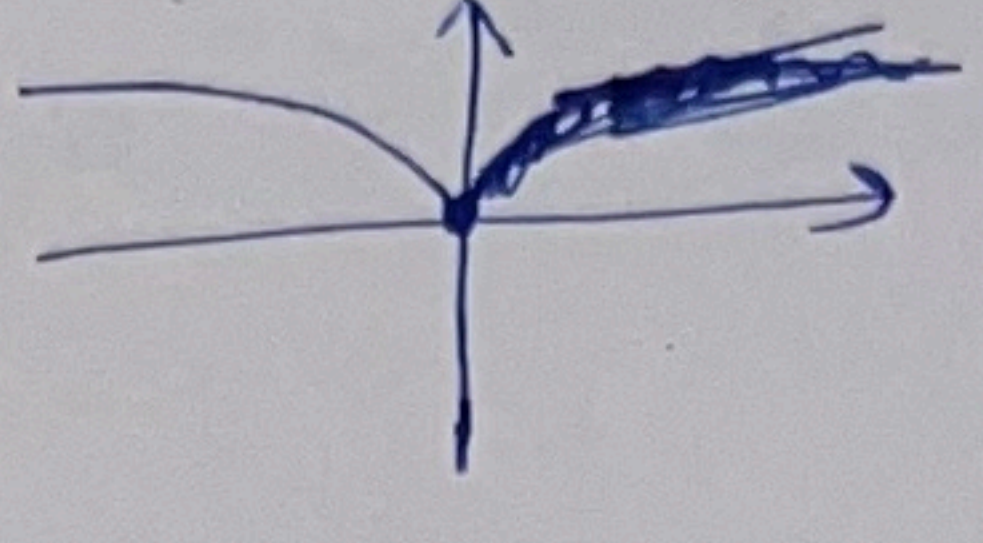
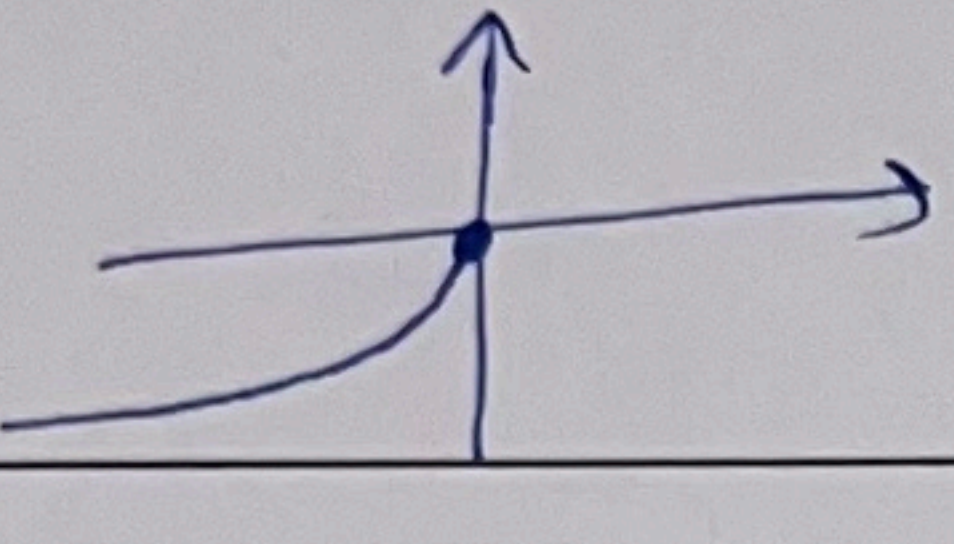
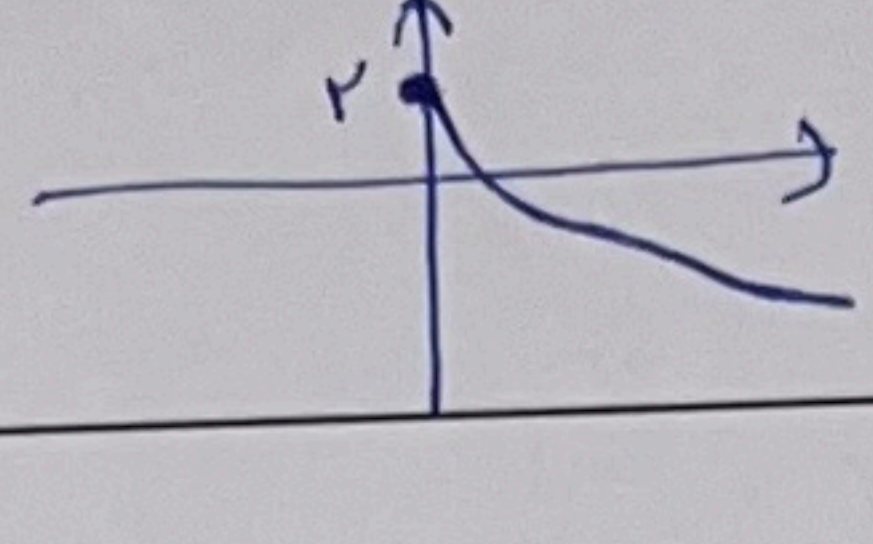
$\sqrt{x}$ فرد



ج) $\frac{1}{n}$

د) $\frac{1}{n^2}$



الف 	ب 	٦
ج 	د 	٧
الف 	ب 	٨
ج 	د 	٩
الف) $-\frac{1}{2}$ ج) $\frac{1}{2}$	ب) $\frac{1}{2}$ د) $-\frac{1}{2}$	١٠