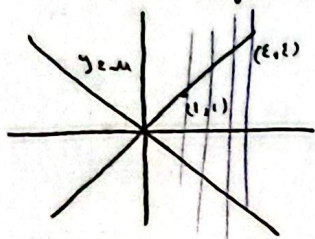


$$f = \{(1, 4a), (1, a^2 + 3), (2, 3a)\}$$

$$\begin{aligned} 4a &= a^2 + 3 \\ 0 &= a^2 - 4a + 3 \\ (a-3)(a-1) &= 0 \\ \downarrow & \quad \downarrow \\ 3 & \quad 1 \end{aligned}$$

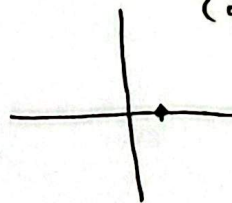
۱

تابع $y = x$ $\rightarrow y = x$ $\rightarrow y = x$



$$\frac{y}{x} = \frac{x}{x}$$

ب) $|y| + \sqrt{x-1} = 0 \rightarrow |y| = -\sqrt{x-1} \rightarrow 0$
 $\rightarrow |y| \geq 0$
 $\sqrt{x-1} \geq 0$
 $\rightarrow 1$



فقط در صورت اول (در صورت دوم) صفر است.

۲

الف) $|y-1| = \sqrt{x-2}$ ب) $y^5 - y = \frac{x^2}{4}$

$x=3$ $y=2$ $\rightarrow 0$

$|y-1| = \sqrt{1} = 1$
 $\downarrow$
 $2 \leq 0$

$y^5 - y = 0$
 $y(y^4 - 1) = 0$
 $y = 0$ $y = 1$ $y = -1$
 $0 = x$ $\rightarrow$ $x=0$

ج) $\sin^2 u + \cos^2 \frac{y}{4} = 1$ د) $\sin y = x$

$u=0$
 $0 + \cos^2 \frac{y}{4} = 1$
 $\cos^2 \frac{y}{4} = 1$
 $\rightarrow y=0$
 $y = \pi$

$u(2y-1) = 0$
 $u=0$
 هر مقدار از y می باشد
 تابع

۳

الف) $x^2 + |y-1| = 4x$

$|y-1| = 4x - x^2$
 $y-1 = \pm(4x - x^2)$

مقدار باره

تابع است

$|y-1| = 4 - 4x + x^2 \rightarrow y = 1 \pm (2-x)^2$

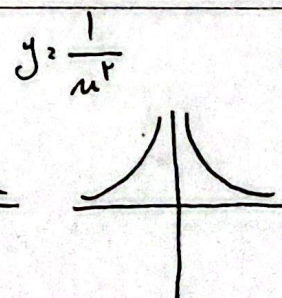
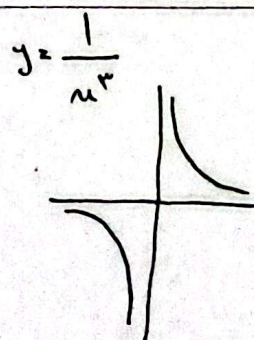
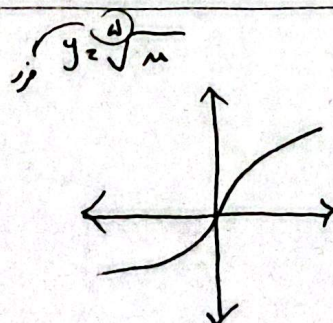
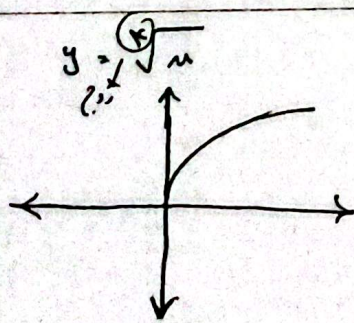
ب) $y^5 + 3x = 0$

$x_1 = x_2 = -x_3 = y_1 = y_2$

$y = -3x$
 $y = \sqrt[5]{-3x}$

تابع

۴



۵

