

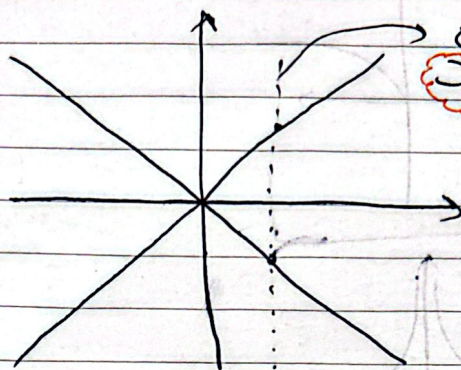
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$$f = \{(1, 4a), (1, a^2 + 3), (2, 3a)\}$$

$$4a = a^2 + 3 \Rightarrow a^2 - 4a + 3 = 0 \Rightarrow (a-1)(a-3) = 0 \Rightarrow \begin{matrix} a=1 \\ a=3 \end{matrix}$$

$$الف) |y| = 1 \quad x$$



-۲ خط قائم با آن را قطع می کنند پس تابع نیست

$$ب) |y| + \sqrt{x-1} = 0$$

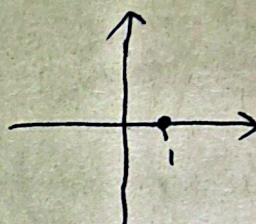
$$|y| > 0$$

$$|y| = 0 \Rightarrow y = 0$$

$$\Rightarrow$$

$$\sqrt{x-1} > 0$$

$$\sqrt{x-1} = 0 \Rightarrow x = 1$$



تابع هست زیرا خط قائم آن را قطع نمی کند

$$الف) |y-1| = \sqrt{x-2} \rightarrow x=2 \Rightarrow |y-1|=2 \Rightarrow y=3 \text{ یا } y=-1 \quad \times$$

$$ب) y^6 - y = \frac{x^2}{y^2} \rightarrow x=0 \Rightarrow y=1 \text{ یا } y=-1 \text{ یا } y=0 \quad \times$$

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

$$ج) \sin^2 x + \cos^2 \frac{y}{r} = 1 \rightarrow x=90^\circ \Rightarrow \cos^2 \frac{y}{r} = 0 \Rightarrow y = 90^\circ \text{ یا } y = 270^\circ \quad \times$$

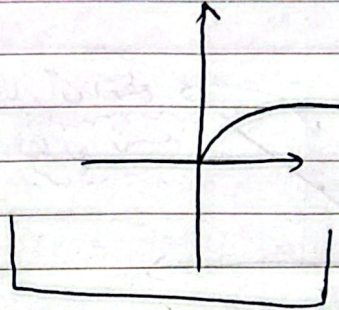
$$د) 2x y = x \rightarrow x=0 \Rightarrow y \in \mathbb{R} \quad \times$$

Subject:

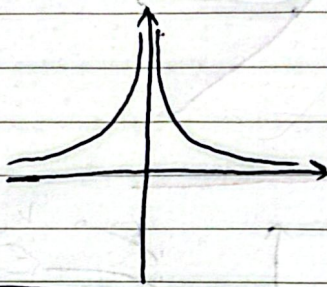
الف) $x^2 + |y-1| = 2 \Rightarrow x=1 \Rightarrow |y-1|=3 \Rightarrow y=4 \text{ و } y=-2$

ب) $y^2 + 3x = 0$ $\left\{ \begin{array}{l} y_1^2 + 3x_1 = 0, x_1 = x_2 \\ y_2^2 + 3x_2 = 0 \end{array} \right\} \Rightarrow y_1 = y_2$ تقاطع مستقيم

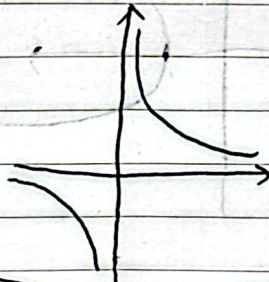
ج) $y = \sqrt{x}$



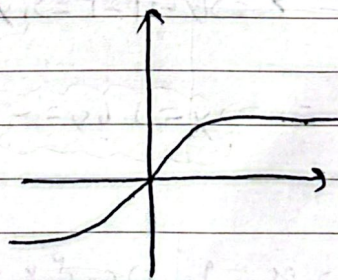
د) $y = \frac{1}{x^2}$



هـ) $y = \frac{1}{x}$



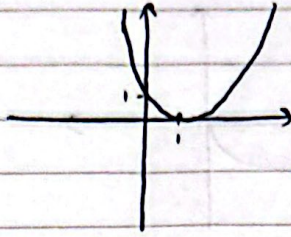
و) $y = \sqrt[3]{x}$



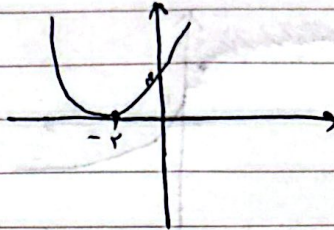
Subject:

1) $y = (x-1)^2$

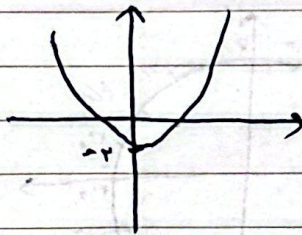
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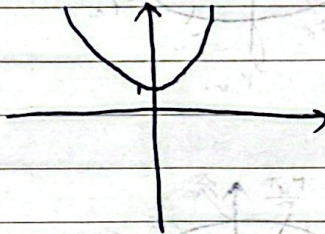
2) $y = (x+2)^2$



3) $y = x^2 - 2$

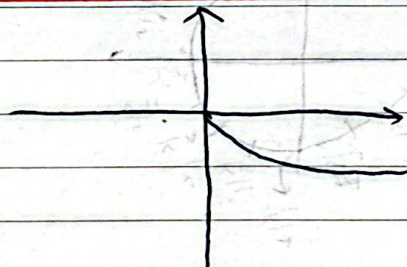


4) $y = x^2 + 1$

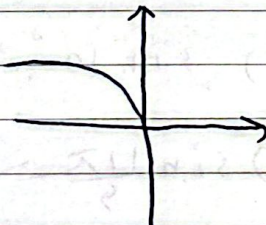


5) $y = -\sqrt{x}$

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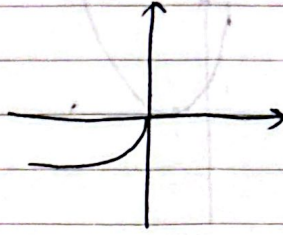


6) $y = \sqrt{-x}$

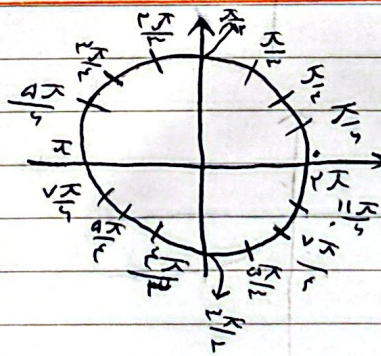
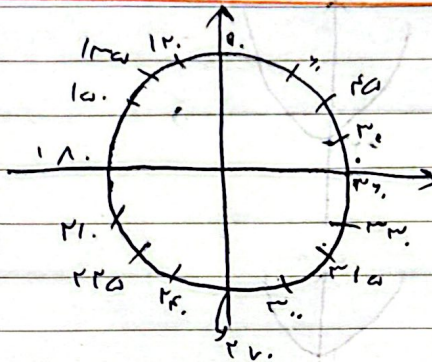
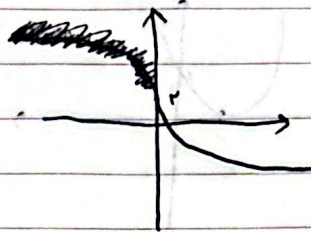


IDEAL

$$2) y = -\sqrt{-x}$$



$$2) y = -\sqrt{x} + 2$$



$$1) \cos 120^\circ = -\frac{1}{2} \quad 2) \sin 120^\circ = \frac{\sqrt{3}}{2}$$

$$2) \cos \frac{2\pi}{3} = -\frac{1}{2} \quad 3) \sin \frac{11\pi}{5} = -\frac{1}{2}$$