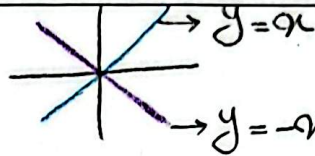


$$\{(1, \underline{4a}), (1, \underline{a^2+3}), (2, \underline{3a})\} \rightarrow \underline{4a} = \underline{a^2+3} \rightarrow \underline{a^2 - 4a + 3 = 0} \rightarrow (a-1)(a-3) = 0$$

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

✓ ۲

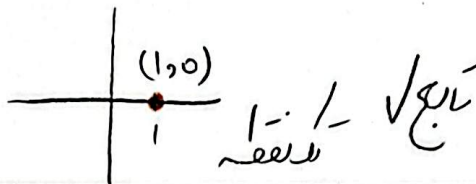
الف) $|y| = |x| \rightarrow y = x \cup y = -x$



خط عمود بر یکدیگر
محاوره و منبسط

✓ ۲

ب) $|y| + \sqrt{x-1} = 0$
 $x=1$ هر دو صفر



الف) $|y-1| = \sqrt{x-2} \xrightarrow{x=4} y-1 = \pm \sqrt{4-2} = \pm \sqrt{2} \rightarrow y = 1 \pm \sqrt{2}$

ب) $y^4 - y = \frac{x^2}{4} \xrightarrow{x=0} y(y^3 - 1) = 0 \rightarrow y = 0, \pm 1$

✓ ۲

ج) $\sin^2 x + \cos^2 y = 1 \xrightarrow{x=\frac{\pi}{2}} 1 + \cos^2 y = 1 \rightarrow \cos^2 y = 0 \rightarrow y = \pm \pi$

د) $2xy = x \rightarrow 2xy - x = 0 \rightarrow x(2y-1) = 0 \xrightarrow{x \neq 0} 2y-1=0 \rightarrow y = \frac{1}{2}$
خط عمود بر منبسط

الف) $x^2 + |y-1| = 4x \rightarrow |y-1| = 4x - x^2 \xrightarrow{x=1} |y-1| = 3$

$y-1=3 \rightarrow y=4 \cup y-1=-3 \rightarrow y=-2$

۱

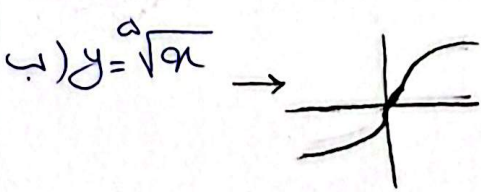
ب) $y^3 + 3x = 0 \rightarrow y^3 = -3x \xrightarrow{x=0} y^3 = 0 \rightarrow y = 0$

✓ تابع

این رابطه تابع است پس مثال نقض نیابیند - تعریف ریاضی
 $y_1^3 + 3x_1 = 0 \rightarrow y_1^3 = -3x_1 \xrightarrow{x_1=x_2} y_1^3 = -3x_2 \rightarrow y_1^3 = y_2^3 \rightarrow y_1 = y_2$

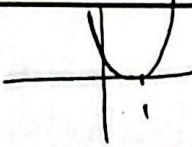
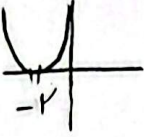
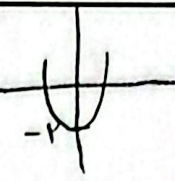
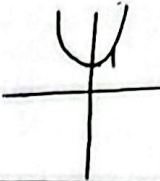
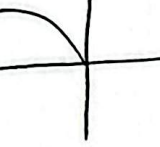
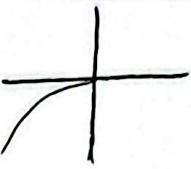
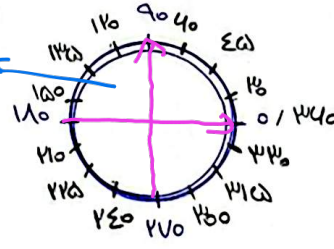
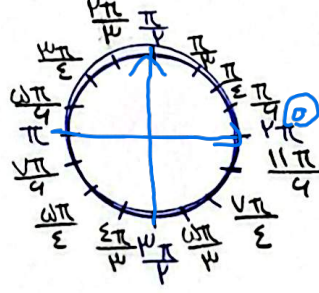
الف) $y = \sqrt[3]{x} \rightarrow$

ج) $y = \frac{1}{x^3} \rightarrow$



✓ ۲

د) $y = \frac{1}{x^2} \rightarrow$

الف) $y = (x-1)^2 \rightarrow$  ب) $y = (x+2)^2 \rightarrow$  ج) $y = x^2 - 2 \rightarrow$  د) $x^2 + 1 \rightarrow$  ✓ (۲)	۶
الف) $y = -\sqrt{x} \rightarrow$  ب) $y = \sqrt{-x} \rightarrow$  ج) $y = -\sqrt{-x} \rightarrow$  د) $y = -\sqrt{x} + 2 \rightarrow$  ۱,۷۵	۷
زوایای معروف ۱,۷۵ همانگونه 	۸
بر حسب رادیان ۱,۵ همانگونه 	۹
الف) $\cos 120^\circ = -\frac{1}{2}$ ب) $\sin 150^\circ = \frac{1}{2}$ ج) $\cos \frac{5\pi}{3} = \frac{1}{2}$ د) $\sin \frac{11\pi}{4} = -\frac{1}{2}$ ✓ (۲)	۱۰