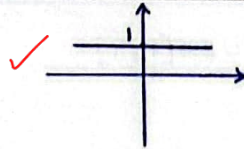


نام و نام خانوادگی کلاس شماره تکلیف شماره پاسخنامه تشریحی

۱) $\begin{cases} y_1^3 = x_1 + 2x_1^2 \\ y_2^3 = x_2 + 2x_2^2 \end{cases} \xrightarrow{x_1 = x_2} y_1^3 = y_2^3 \checkmark$ $\begin{cases} |y_1| = -x_1^2 + x_1 + 3 \\ |y_2| = -x_2^2 + x_2 + 3 \end{cases} \xrightarrow{x_1 = x_2} y_1 = \pm y_2 \times$

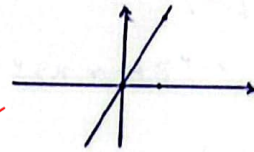
مثال نقض: $x=0 \rightarrow y=\pm 3$ $\checkmark$ $\rightarrow$ $y=1, 3$ $\checkmark$ $\rightarrow$ $19-21=-1$ $\checkmark$ $\rightarrow$ $x=5$ $\checkmark$ مثال نقض: $x=1 \rightarrow y=0, 3, 4$ $\checkmark$

$f(x) = K \xrightarrow{[3]} f(x) = 1$



$f(x) = 2x + b \xrightarrow{[1]} 2 = 2 + b \rightarrow b = 0 \rightarrow f(x) = 2x$

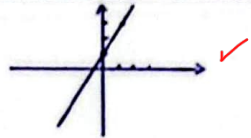
$\begin{array}{c|c} x & 1 \\ \hline y & 2 \end{array}$



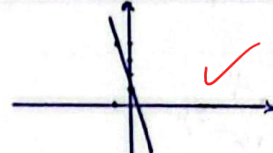
الف) $y = x \rightarrow a=1, b=0 \Rightarrow a+2b=1$ $\checkmark$

ب) $-\frac{a}{2} = 2 \quad 1 = 2 + (-2) \times 2 + b \rightarrow b = 5 \rightarrow a+2b=9$
 $a = -4$ $\checkmark$

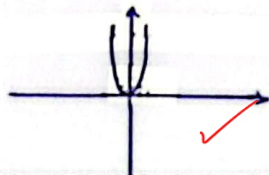
الف) $\begin{array}{c|c} x & 1 \\ \hline y & 3 \end{array}$



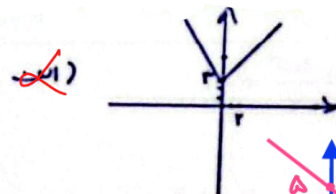
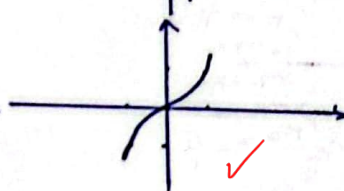
ب) $\begin{array}{c|c} x & 0 \\ \hline y & 1 \end{array}$



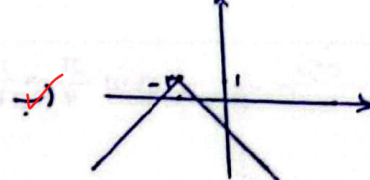
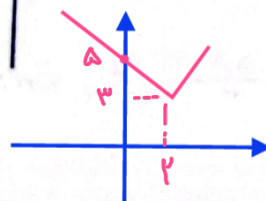
ج) $\begin{array}{c|c} x & 1 \\ \hline y & 1 \end{array}$



د) $\begin{array}{c|c} x & 1 \\ \hline y & 1 \end{array}$



الف)



ج) $x^2 - 2x = 0 \rightarrow x^2 = 2x \rightarrow x = 0, 2$ $(x^2 - 4)x^2 = 0 \rightarrow x = 0, \pm 2$

الف) $D_f = \mathbb{R} - \{0, 2\}$ ✓ ب) $D_f = \mathbb{R} \ (\Delta = -15)$ ✓

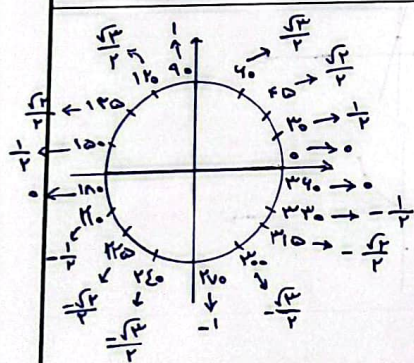
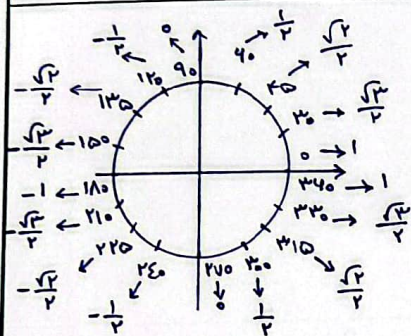
ج) $D_f = \mathbb{R} \ (\Delta = -15)$ ✓ د) $D_f = \mathbb{R} - \{0, +1, -1\}$ ✓

الف) $4 - x \geq 0 \Rightarrow x \leq 4$ $x - 2 \geq 0 \Rightarrow x \geq 2$ $D_f = [2, 4]$ ✓

ب) $D_f = \mathbb{R}$ (مخرج هرگاه ضربه شود) ✓

ج) $x - 2 = 0 \rightarrow x = 2$ $x - 2 \geq 0 \rightarrow x \geq 2$ $D_f = [2, +\infty) - \{2\}$ ✓

د) $D_f = \mathbb{R} - \{0\}$ $|x| + x^2 = 0 \rightarrow x = 0$ ✓

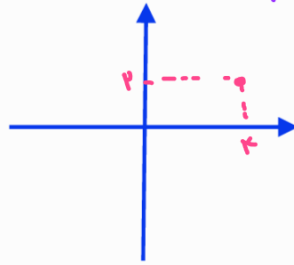


الف) $\cos \frac{2\pi}{4} = -\frac{1}{2} \xrightarrow{\text{قرینه}} \frac{1}{2}$ $\sin \frac{\pi}{4} = \frac{1}{2}, \sin \frac{5\pi}{4} = -\frac{1}{2}$ ✓

ب) $\cos \frac{11\pi}{4} = \frac{\sqrt{2}}{2} \xrightarrow{\text{قرینه}} -\frac{\sqrt{2}}{2}$ $\sin \frac{5\pi}{4} = -\frac{\sqrt{2}}{2}, \sin \frac{3\pi}{4} = \frac{\sqrt{2}}{2}$ ✓

$$\text{ج) } \underbrace{\sqrt{x-4}}_{x=4} + \underbrace{|y-2|}_2 = 0$$

$$Z = \{(4, 2)\}$$



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تابع است.