

اینجا تصحیح مسائل ۱
 "بسیار عالی"
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۱) $\frac{n}{2} [1 + (n-1)] > 80 \Rightarrow 2n^2 + 2n - 80 > 0 \Rightarrow 2n^2 + 2n - 80 > 0 \Rightarrow n = 10, 7$ (۱)
 $n = -14, 8$ (۲)
 $(-\infty, -14, 8) \cup (10, 7, +\infty) \Rightarrow n > 10$ (۳)

۲) $\frac{r((-r)^n - 1)}{-r - 1} = 11r \Rightarrow (-r)^n - 1 = -r \Rightarrow n = 8$ (۱)
 $c = -r$ (۲)
 $\begin{cases} a - b = 2 \\ 1a + 2b = 1 \end{cases} \Rightarrow \begin{cases} a = \frac{1}{3} \\ b = -\frac{5}{3} \end{cases}$ (۳)
 $y = \frac{1}{3}x^2 - \frac{5}{3}x - 2$ (۴)

۳) $x + \sqrt{x} = 4 \Rightarrow \sqrt{x} = 4 - x \Rightarrow x = 16 + x^2 - 12x \Rightarrow x^2 - 12x + 16 = 0$ (۱)
 $x = 9$ (۲)
 $x = 4$ (۳)
 $\delta x^2 + 4x - 1 = 0 \Rightarrow \Delta = 144 \Rightarrow x = -2$ (۴)
 $2x^2 + 2x - 2 = 0$ (۵)
 $x = 1/1$ (۶)
 $x = 1/8$ (۷)

۴) $t^2 - 2t - 2 = 0 \Rightarrow t = 2 \Rightarrow x^2 + 2x - 2 = 0 \Rightarrow x = -5, x = 1$ (۱)
 $t = -1 \Rightarrow x^2 + 2x + 1 = 0 \Rightarrow x = -1$ (۲)
 $x = -1, x = 1$ (۳)

۵) $|x| + |x-1| = 2$ (۱)
 $x = -1$ (۲)
 $x = 2$ (۳)

۶) $f(x) = \alpha + \beta = r$ (۱)
 $f' = \frac{\alpha}{\beta} + \frac{\beta}{\alpha} = \frac{\alpha^2 + \beta^2}{\alpha\beta} = \frac{r^2 - 2p}{p} = \frac{14 - 2}{1} = \frac{12}{1} = 12$ (۲)
 $p = \alpha\beta = 1$ (۳)
 $p' = \frac{\alpha}{\beta} \times \frac{\beta}{\alpha} = 1$ (۴)
 $x^2 - 12x + 1 = 0$ (۵)

۷) $p = 1 \Rightarrow \frac{m+1}{m+2} = 1 \Rightarrow m+1 = m+2 \Rightarrow m = 1$ (۱)
 $A = OB \Rightarrow \sqrt{(x-1)^2 + (x+2-2)^2} = \sqrt{(x-2)^2 + (x+2+2)^2}$ (۲)
 $x = -4$ (۳)

$$A(r, -1) \xrightarrow{r \neq 0} 1 \neq 0 \quad d = \frac{|r(r) - (-1) + 8|}{\sqrt{r^2 + 1}} = \frac{1}{\sqrt{8}} \quad \Rightarrow \frac{1}{\sqrt{8}} = \frac{r}{8} \quad (1)$$

$$\frac{1}{\sqrt{8}} = \frac{1}{\sqrt{8}} \times r = \frac{r \cdot \sqrt{8}}{8} = \frac{\sqrt{8}}{8} \quad (2)$$

$$A: m_{BC} = \frac{r+1}{-r-2} = \frac{r}{-r} = -1 \quad \Rightarrow \quad y+1 = -(x-2) \Rightarrow y = x-2-1 = x-3 \quad (3)$$

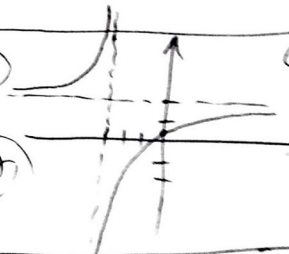
$$B: M_{BC} = \left(\frac{r+(-r)}{2}, \frac{-1+r}{2} \right) = (0, 1) \quad AM = \sqrt{(r-0)^2 + (-1-1)^2} = \sqrt{r^2 + 4} = \sqrt{r^2 + 4} = \sqrt{r^2 + 4} \quad (4)$$

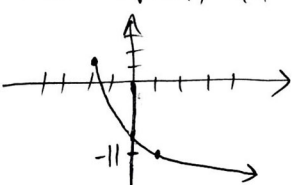
$$\text{الف) } [3x-1] = 8 \Rightarrow [3x] - 1 = 8 \Rightarrow [3x] = 9 \Rightarrow 9 \leq 3x < 12 \Rightarrow 3 \leq x < 4 \quad (5)$$

$$\Rightarrow x = [3, 4) \quad (6)$$

$$\text{ب) } |3x+8| \geq 2 \Rightarrow \begin{cases} 3x+8 \geq 2 \Rightarrow 3x \geq -6 \Rightarrow x \geq -2 \Rightarrow [-2, +\infty) \\ 3x+8 \leq -2 \Rightarrow 3x \leq -10 \Rightarrow x \leq -\frac{10}{3} \Rightarrow (-\infty, -\frac{10}{3}] \end{cases} \quad (7)$$

$$(-\infty, -\frac{10}{3}] \cup [-2, +\infty) \quad (8)$$

$$\text{ج) } y = \frac{2x+1}{x+2} \Rightarrow x+2=0 \Rightarrow x=-2 \quad y = \frac{2x}{x} = 2 \quad \text{نقطة: } (0, \frac{1}{2}) \quad (9)$$


$$\text{د) } y = -\sqrt{2x+4} + 1 \quad \text{نقطة: } 2x+4 \geq 0 \Rightarrow x \geq -2 \quad \frac{y}{1} = \frac{-1}{-1} \quad (10)$$


$$\text{هـ) } y = x[x]-2$$

x	[-5, -2)	[-2, -1)	[-1, 0)	[0, 1)
[x]	-5	-2	-1	0
y = x[x]-2	-25-2	-4-2	-1-2	-2

$$y = -2x - 2$$

x	-2	-1	0
y	2	0	-2

$$y = -2x - 2$$

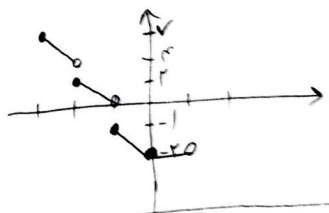
x	-2	-1	0
y	2	0	-2

$$y = -x - 2$$

x	-1	0	1
y	-1	-2	-3

$$y = -2$$

x	-2	-1	0
y	-2	-2	-2



(1.5)

الف) $D_f = \mathbb{R}$
 $D_g = \mathbb{R}$ $f(x) = g(x) \Rightarrow f = g$

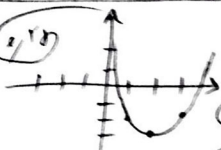
(1.5)

$\Rightarrow D_f = D_g$ $f(x) = g(x) \Rightarrow f = g$

2.) $D_f = \{-1, 2, -2\}$ $D_g = \{2, -1\} \Rightarrow D_f \neq D_g \Rightarrow f \neq g$

$$f(x) = x^2 - 2x + 1 \Rightarrow x = \frac{f}{2} = 2$$

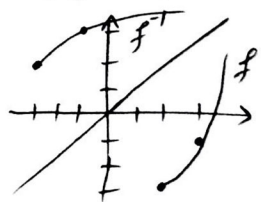
x	1	2	3
y	-1	-2	-2



$$y = x^2 - 2x + 2 - 2 + 1 = (x-2)^2 - 2 \Rightarrow y = (x-2)^2 - 2 \Rightarrow y + 2 = (x-2)^2 \Rightarrow$$

$$|x-2| = \sqrt{y+2} \Rightarrow x-2 = \pm \sqrt{y+2} \Rightarrow x-2 = \sqrt{y+2} \Rightarrow$$

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



« بیان »
 « این راه حل را درست شمرده و تعلق نمی دهد »