

Date

دارد هم رفته B شخصی مدرسی

19

Subject

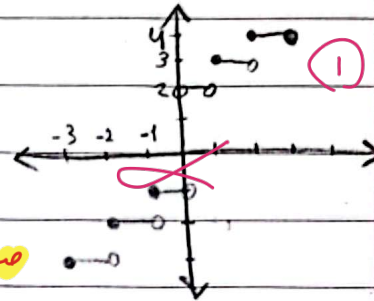
کد تکلیف ۶:

$$1) \text{ الف) } 2 \sin^2 \left(\pi + \frac{\pi}{3} \right) - 1 \rightarrow 0 \leq \sin^2 \left(\pi + \frac{\pi}{3} \right) \leq 1 \xrightarrow{\times 2} \frac{x^2}{-1}$$

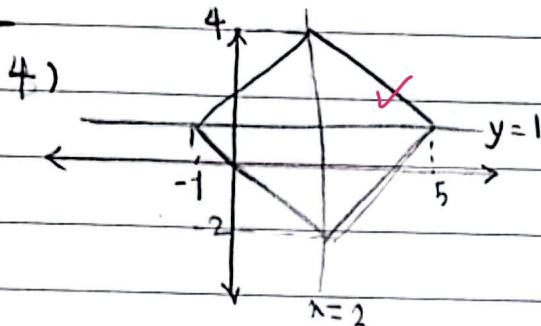
$$-1 \leq 2 \sin^2 \left(\pi + \frac{\pi}{3} \right) - 1 \leq 1 \checkmark$$

$$\text{ب) } 3 \cos^3 \pi - 4 \rightarrow -1 \leq \cos^3 \pi \leq 1 \xrightarrow{\times 3} -7 \leq 3 \cos^3 \pi - 4 \leq -1 \checkmark$$

$$2) \frac{n}{|n|} + [n] \rightarrow \begin{cases} -3 \leq n < 0 \rightarrow [n] - 1 \\ 0 < n \leq 3 \rightarrow [n] + 1 \end{cases}$$



صفحه آخر...



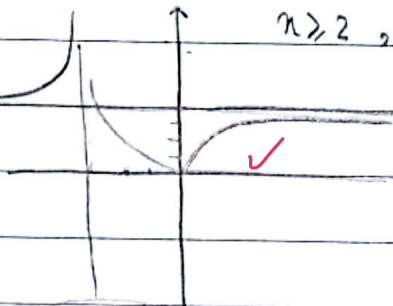
$$n \geq 2, y \geq 1 \rightarrow -n + 6 = y \quad (2)$$

$$n \leq 2, y \geq 1 \rightarrow n + 2 = y$$

$$n \leq 2, y \leq 1 \rightarrow y = -n$$

$$n \geq 2, y \leq 1 \rightarrow y = n - 4$$

$$3) y = \left| \frac{4n+1}{n+3} \right|$$

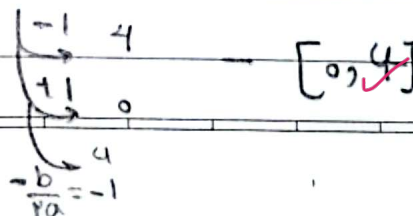


(2)

$$5) \text{ الف) } n + \frac{1}{n} + 2 \rightarrow \left(\frac{n+1}{n} \right)^2 \geq 2 \rightarrow (t+1)^2 - 1$$

$$= (t)(t+2) \xrightarrow{\frac{\sqrt{2}}{\infty}} \sqrt{2} \times (\sqrt{2}+2) \rightarrow [2+\sqrt{2}, +\infty) \quad (2)$$

$$\text{ب) } (3 - \sin \pi)(1 + \sin \pi) = -\sin^2 \pi + 2 \sin \pi + 3$$



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6) $f(n) = -\frac{1}{3}n + 10$ — $D_f = \{1, 2, 3, \dots, 9\}$ (r)
 $R_f = \left\{ \frac{29}{3}, \frac{28}{3}, 9, \frac{26}{3}, \frac{25}{3}, 8, \frac{23}{3}, \frac{22}{3}, 7 \right\} \rightarrow \text{جمع } 75$

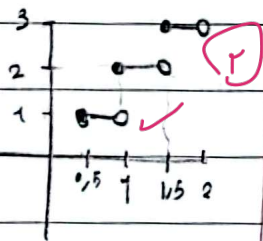
7) $a \neq 0$ — $[1, +\infty)$ — $\sqrt{ax^2 + bx + c} = f(x)$ (r)
 $f(2) = 0 \rightarrow 2b + c = 0$
 $f(3) = 1 \rightarrow 3b + c = 1$ — $b = 1$
 $c = -2$
 $g(x) = \sqrt{x^2 + 4} \rightarrow R_{x^2 + 4} \rightarrow [4, +\infty) \sqrt{}, [2, +\infty)$

8) $H(x) = \frac{x(x^2 - 4)}{x + 2}$ — $D_f = R - \{a, b\}$, $R_f = [c, +\infty) - 8$ (r)
 $\hookrightarrow \frac{x(x+2)(x-2)}{(x+2)} = x(x-2) = 8 \rightarrow x^2 - 2x - 8 = 0$
 $(x-4)(x+2) = 0 \rightarrow x \neq 4, -2$
 $C = y_s \rightarrow x_s = +2 \rightarrow y_s = 1(1-2) = -1$ — $b > a$
 $f\left(\frac{a+b}{2c}\right) = f\left(-\frac{1}{2}\right) = 3$

9) $y = \sqrt{x^3 + ax^2 + bx - 8}$ — $D_y = [a, b]$ — $R_y = ?$ (r)
 $(x-2)^3 = x^3 - \frac{23}{3}x^2 + \frac{12}{3}x - 8 \rightarrow [-8, 12]$

$(x-2)^3 = -6$ — -8 — $R_y = [-8, 10]$
 $x=12$ — 10

10) $y = [x] + \left[x + \frac{1}{2}\right] \rightarrow \left[\frac{1}{2}, 1\right)$
 $[1, 1.5)$
 $[1.5, 2)$



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$$y = \begin{cases} [x] + 1 & x > 0 \\ [x] - 1 & x < 0 \end{cases}$$

$\Rightarrow$

