

نام و نام خانوادگی فرزاد شیرانی پاسخنامه تشریحی تکلیف شماره ۷ کلاس پایه دهم ۵

$$\begin{array}{c} \uparrow \\ \hline \leftarrow - n \quad | \quad n \rightarrow \end{array}$$

$$x - a \quad | \quad -x + a \quad | \quad -x + a \quad | \quad x - a$$

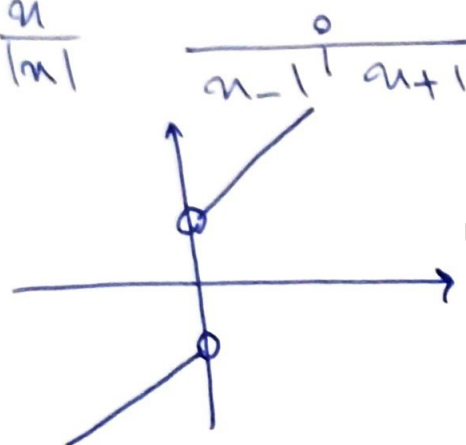
$$\frac{-r \quad 1}{-r_{n+1} \quad -r_{n+1} \quad r_n - a}$$

$$-k_2 + \mu$$

$$\rightarrow k - r$$

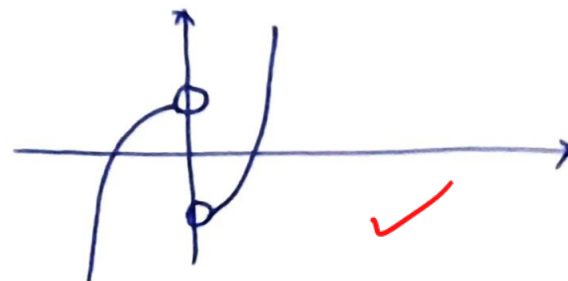
k - انتقال معی
۱ - ۲ - ۳

$$\rightarrow) u + \frac{u}{|n|}$$



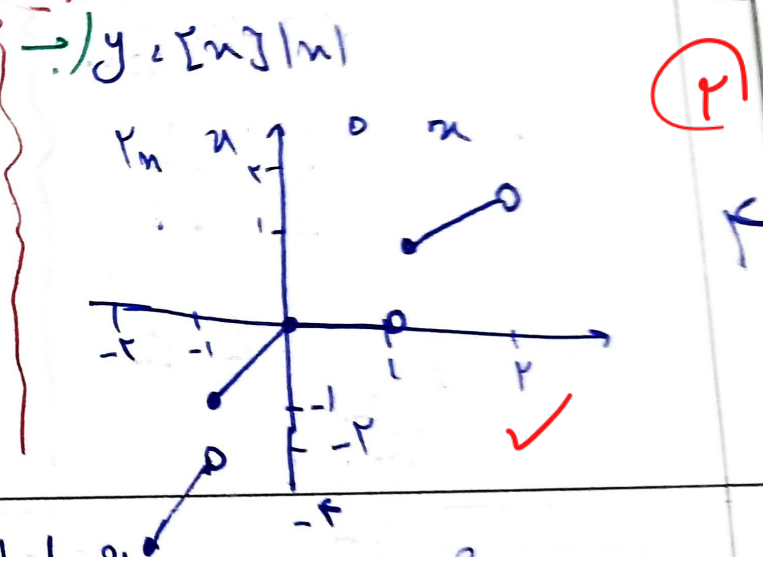
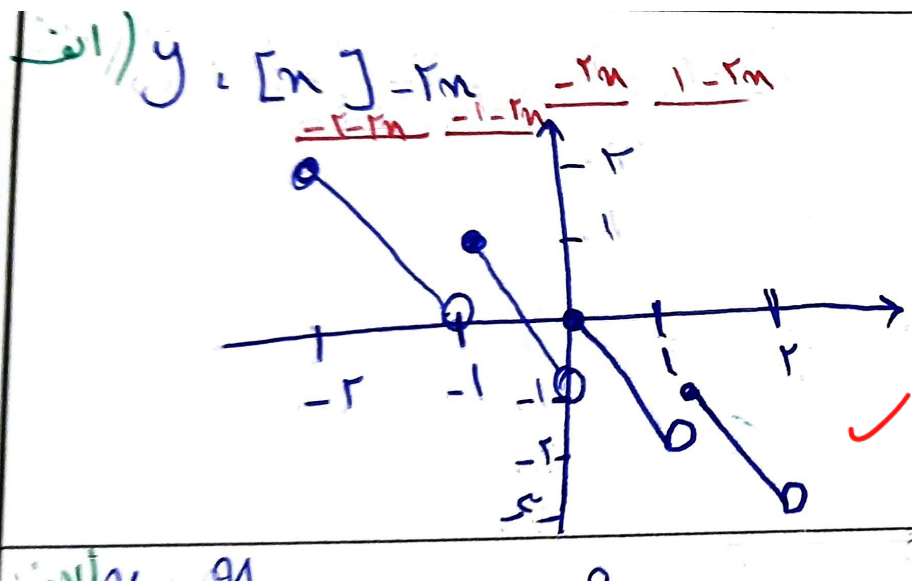
$$\rightarrow) u - \frac{u}{|n|}$$

$$\frac{-u^{n+1} - u^{n-1}}{-u^{n+1} + u^{n-1}}$$



(1)

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$$1) y, x_n - [x_n] \rightsquigarrow 0 \leq x_n - [x_n] < 1 \rightarrow R_f = [0, 1] \checkmark$$

$$\Rightarrow y, x - [x] \rightsquigarrow x - [x] \rightarrow R_f = [0, x] \checkmark$$

$$2) y, x - a[x/a] \rightsquigarrow a(x/a - [x/a]) \rightarrow R_f = [0, a] \checkmark$$

$$3) [x_n] - x_n \rightsquigarrow R_f = [-1, 0] \checkmark$$

(1)

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1) $y = r \sin x + r \cos x$

$$-\sqrt{r^2} \leq r \sin x + r \cos x \leq \sqrt{r^2}$$

$$\rightarrow R_f = [-\sqrt{r}, \sqrt{r}] \checkmark$$

2) $[r \sin x + a \cos x] = y$

$$-\sqrt{r^2 + a^2} \leq r \sin x + a \cos x \leq \sqrt{r^2 + a^2}$$

$$\rightarrow R_f = [-\sqrt{r^2 + a^2}, \sqrt{r^2 + a^2}] \checkmark$$

3) $y = r \sin x - r \cos x$

$$-\sqrt{r^2 + r^2} \leq r \sin x - r \cos x \leq \sqrt{r^2 + r^2}$$

$$\rightarrow R_f = [-\sqrt{2}r, \sqrt{2}r] \checkmark$$

4) $y = \sqrt{a^2 + b^2} \cos x - r \sin x$

$$-\sqrt{a^2 + b^2} \leq \sqrt{a^2 + b^2} \cos x - r \sin x \leq \sqrt{a^2 + b^2}$$

$$\rightarrow R_f = [-\sqrt{a^2 + b^2}, \sqrt{a^2 + b^2}] \checkmark$$

(2)

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الف) $y = \sin^2 m + r \sin m + r$ $\left. \begin{array}{l} \sin m = 1 \rightarrow 4 \\ \sin m = -1 \rightarrow 0 \\ \sin m = -\frac{r}{r} \cdot \frac{1}{r} \rightarrow \frac{1}{r} \end{array} \right\} \rightarrow R_f = [0, 4] \checkmark$	(2)
$\rightarrow y = r \sin^2 m + r \sin m + r$ $\left. \begin{array}{l} \sin m = 1 \rightarrow \frac{1}{r} \\ \sin m = -1 \rightarrow 1 \\ \sin m = -\frac{r}{r} \rightarrow \frac{1}{r} \end{array} \right\} \rightarrow [\frac{1}{r}, 1] \checkmark$	7
الف) $y = \sin^2 m + r \cos^2 m \rightarrow y = r \cos^2 m + \frac{\cos^2 m + \sin^2 m}{1} \rightarrow y = r \cos^2 m + 1 \rightarrow R_f = [1, r] \checkmark$ $\rightarrow y = \frac{r \cot^2}{1 + \cot^2} \rightarrow y = \frac{r \cot^2}{\sec^2} \rightarrow y = r \sin^2 \alpha \rightarrow y = \sin^2 \alpha$ $\rightarrow R_f = [-1, 1] \checkmark$	8
الف) $y = \sin^4 m + \cos^4 m \rightsquigarrow r^{-r} \leq \sin^4 + \cos^4 \leq 1$ $\rightsquigarrow R_f = [\frac{1}{r}, 1] \checkmark$	(2)
$\rightarrow y = [\sin^4 m + \cos^4 m] \rightsquigarrow r^{-r} \leq \sin^4 + \cos^4 \leq 1$ $\rightarrow \frac{1}{r} \leq \sin^4 + \cos^4 \leq 1 \rightarrow R_f = \{0, 1\} \checkmark$	9
الف) $y = \frac{r^m + v_m - r}{n + r} = \frac{(n+r)(r_{m-1})}{(n+r)} < r_{m-1}$ $R_f = \mathbb{R} - \{-9\} \checkmark$	(2)
$\rightarrow \frac{n^r - 1}{n - 1} = \frac{(n-1)(n^r + n^{r-1} + \dots + 1)}{(n-1)} = n^r + n^{r-1} + \dots + 1$ $\rightarrow R_f = [\frac{r}{r} + \infty) \checkmark$	10

