

توانجام محاسبات رفت کن:

۱۹۲۵

(۱۷۵)

$$-2 \leq x \leq 4 \rightarrow -2 \leq \frac{3x+1}{5} \leq 4 \rightarrow -10 \leq 3x+1 \leq 20 \rightarrow -11 \leq 3x \leq 19 \rightarrow -\frac{11}{3} \leq x \leq \frac{19}{3}$$

(۱۷۵)

منتهی آخره

(۱۷۵)

(۲)

(۱۴)

(۵)

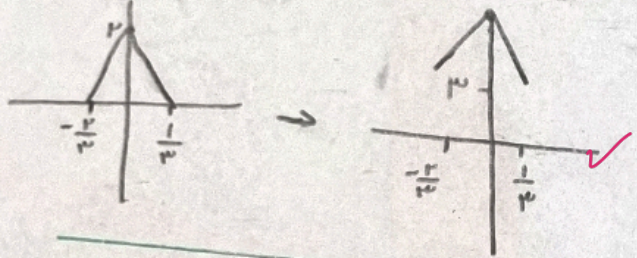
(۲)

$$-2 \leq x \leq 3 \rightarrow -4 \leq 3x \leq 9 \rightarrow -8 \leq 3x-2 \leq 7 \rightarrow -6 \leq x \leq 3$$

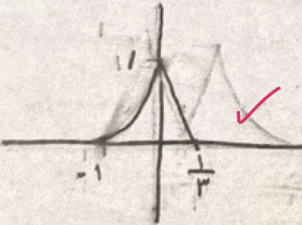
$$-1 \leq x \leq 3 \rightarrow -3 \leq 3x \leq 9 \rightarrow -2 \leq 3x+1 \leq 10 \rightarrow -3 \leq x \leq 3$$

$$-1 \leq x \leq 5 \rightarrow -3 \leq -5x \leq 3 \rightarrow -\frac{3}{5} \leq x \leq \frac{3}{5}$$

$$-1 \leq x \leq 2 \rightarrow -1 \leq 3x+1 \leq 2 \rightarrow -2 \leq 3x \leq 1 \rightarrow -\frac{2}{3} \leq x \leq \frac{1}{3}$$



$$1 \leq x \leq 5 \rightarrow 1 \leq 2-3x \leq 5 \rightarrow -1 \leq -3x \leq 3 \rightarrow -1 \leq x \leq \frac{1}{3}$$



دائری تابع مدید
شکل تابع اول به نسبت محور مختصات

سوال ۹

۶

$$\text{رأس: } (h, k) \xrightarrow{\text{معادله خط}} y = a(x-h)^2 + k = -\frac{1}{3}x^2 + \frac{2}{5}x + 1 \rightarrow a = -\frac{1}{3}$$

$$\text{رأس: } (4, 3) \rightarrow y = -\frac{1}{3}(x-4)^2 + 3 \xrightarrow{y=0} -\frac{1}{3}(x-4)^2 = -3 \rightarrow \begin{cases} x=7 \\ x=1 \end{cases}$$

$$f(n) = a(n+1)(n-1) \xrightarrow{n \rightarrow \infty} -\varepsilon a, r \rightarrow a, -1 \rightarrow f(n), -n^2 + 2n + 1 \quad (1)$$

$$n(n+1) \rightarrow n = -\frac{1}{r} \rightarrow y = 1 - rf(1) = 1 - (r \times \varepsilon) = -\sqrt{\quad}$$

$$-n = -\frac{1}{r} \rightarrow \frac{1}{r} = \sqrt{\quad}$$

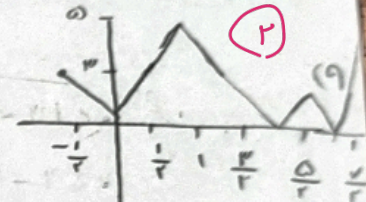
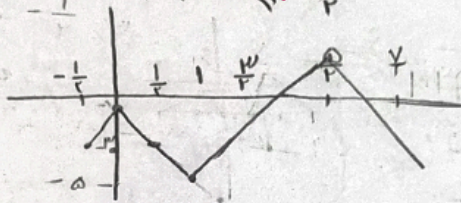
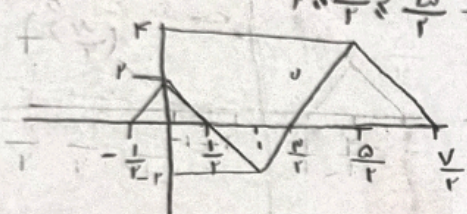
(1.5)

$$Df(n) : (a+1, 1) \quad Dg(n) : [-1, b-1]$$

$$a+1, 1 \rightarrow \sqrt{a+1} \quad b-1, 1 \rightarrow \sqrt{b-1}$$

-9

$$-1 \leq n \leq 1 \rightarrow \frac{1}{r} \leq \frac{n}{r} \leq \frac{1}{r} \rightarrow -\frac{1}{r} \leq \frac{n}{r} + 1 \leq \frac{1}{r}$$



$y, rf(n)$

$y, rf(n) - 1$

$y, |rf(n) - 1|$

$$\rightarrow D : [-\frac{1}{r}, \frac{1}{r}], R : [-\sqrt{\quad}, \sqrt{\quad}]$$

$$f(n) = \left| \frac{n-1}{r(n-1)+1} \right|, \left| \frac{n-1}{r(n-1)} \right| \rightarrow \left| \frac{n-1}{r(n-1)} \right| + 1 \rightarrow n + \left| \frac{n-1}{r(n-1)} \right| + 1 < \quad (1.5)$$

$$\frac{n^2 - n + n - 1 + n - 1}{r(n-1)} < \frac{r(n-1) - \varepsilon}{r(n-1)} < \frac{-\sqrt{r} \sqrt{r} \frac{n}{r}}{-1 + \frac{1}{r}} (-\infty, \sqrt{r}) \cup [\sqrt{r}, \frac{n}{r})$$

$$\left| \frac{n-1}{r(n-1)} \right| > n+1 \rightarrow \frac{n-1 - r(n-1) + r(n-1) - r(n-1) + 1}{r(n-1)} > \frac{-r(n-1) + r(n-1) + 1}{r(n-1)} >$$

$$\frac{n^2 - n + n + 1}{r(n-1)} >$$

صفحه آخر

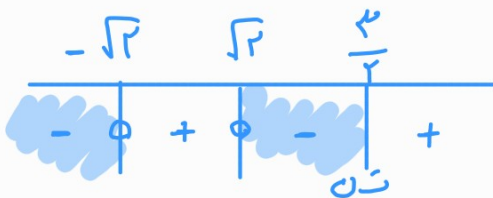
$$D_g = [-2, 3] \rightarrow -2 \leq u \leq 3 \rightarrow -1 \leq 3u - 2 \leq 7 \Rightarrow D_f = [-1, 7] \quad -2$$

$$g(u) = \left| \frac{(u-2)+1}{2(u-2)+1} \right| + 1 = \left| \frac{u-1}{2u-3} \right| + 1$$

$$u + g(u) < 0 \rightarrow \left| \frac{u-1}{2u-3} \right| < -1-u \rightarrow$$

از به قدر مطلق بزرگتر شده پس باید مثبت باشد : $-1-u > 0 \rightarrow u < -1$

$$\xrightarrow[u < -1]{\text{قدر مطلق مثبت}} \frac{u-1}{2u-3} < -1-u \rightarrow \frac{2u^2-4}{2u-3} < 0 \rightarrow \frac{2(u-\sqrt{2})(u+\sqrt{2})}{2u-3} < 0$$



$$\xrightarrow{u < -1} u < -\sqrt{2} \rightarrow (-\infty, -\sqrt{2})$$