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$$-2 \leq \frac{3x+2}{8} \leq 2 \rightarrow -1 \leq 3x+2 \leq 2 \rightarrow -12 \leq 3x \leq 18 \rightarrow$$

$$\rightarrow -4 \leq x \leq 6 \rightarrow D_{f(\frac{3x+2}{8})} = [-4 \checkmark 6]$$

$$x \in [-2 \ 2] \Rightarrow -1 \leq 3x-2 \leq 7$$

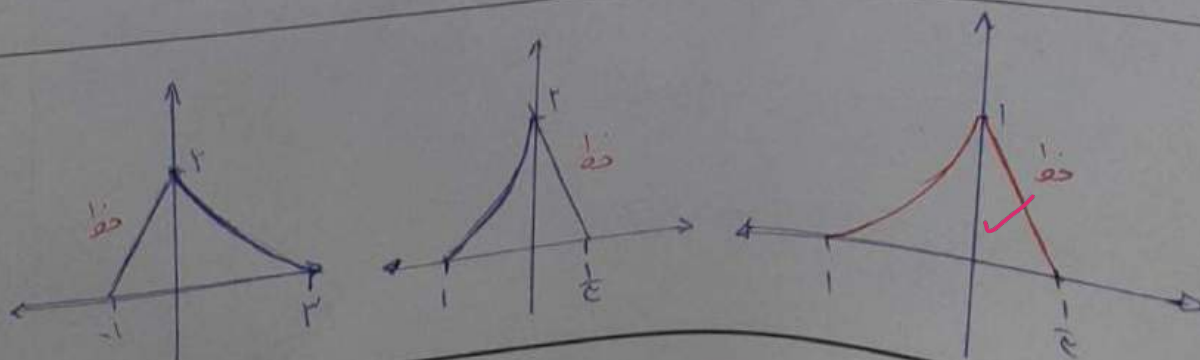
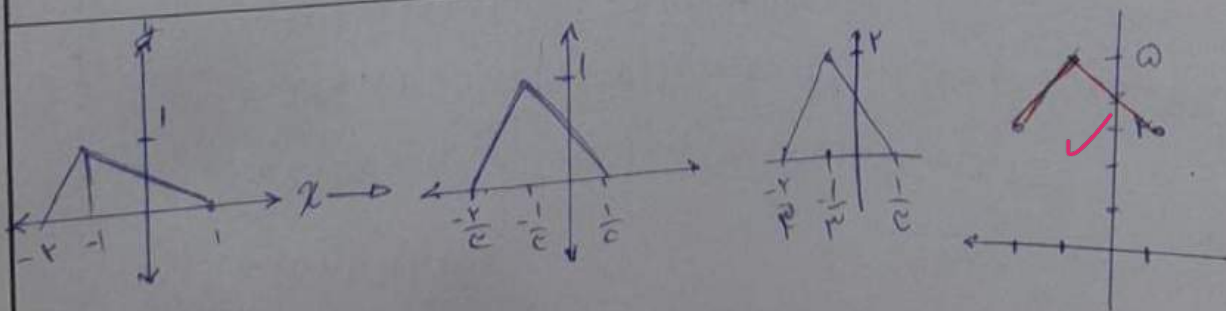
$$\hookrightarrow -2 \leq x \leq 3 \rightarrow -4 \leq 3x \leq 9 \rightarrow -1 \leq 3x-2 \leq 7$$

$$\rightarrow D_{f(x)} = [-1 \checkmark 7]$$

$$-1 \leq x < 3 \rightarrow -3 \leq 3x < 9 \rightarrow -2 \leq 3x+1 < 10 \rightarrow -1 \leq \frac{3x+1}{2} < 5$$

$$\Rightarrow -1 \leq 2-5x < 5 \rightarrow -3 \leq -5x < 3 \rightarrow -3 \leq 5x \leq 3 \rightarrow$$

$$\rightarrow -\frac{3}{5} \leq x \leq \frac{3}{5} \rightarrow D_{f(2-5x)} = [-\frac{3}{5} \checkmark \frac{3}{5}]$$



$$-\frac{1}{\omega} \div -\frac{r}{r} = \frac{r}{\omega} \cdot x_{ex} \rightarrow y_{ex} = \frac{r\Lambda}{r\omega}$$

$$y = a(x-b)^r + c \rightarrow b = 2 \quad c = 3 \quad a = -\frac{1}{r}$$

$$\Rightarrow -\frac{1}{r}(x-2)^r + 3 = 0 \rightarrow |x-2| = r \rightarrow x = 1 \checkmark$$

$$rx + r = 1 \rightarrow x = -\frac{1}{r} \rightarrow y_{ex} = 1 - r f(1) = 1 - \Lambda = -V$$

$$(\alpha, \beta) = \left(-\frac{1}{r}, -V\right) \Rightarrow \alpha\beta = +\frac{V}{r}$$

$$\begin{aligned} D_{f(x)} = (a, \varepsilon] &\rightarrow D_{f(x+1)} = [a+1, \omega] \\ D_{g(x)} = [-1, b) &\rightarrow D_{g(x+1)} = [-r, b-1) \end{aligned} \left\{ \begin{array}{l} \rightarrow [-r, b-1) \cap (a+1, \omega] = (-r, \omega) \\ \rightarrow a+1 = -r \rightarrow a = -r-1, b-1 = \omega \rightarrow b = \omega+1 \\ a-b = -r-1-\omega = -9 \end{array} \right.$$

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$$-r \leq x \leq \omega \sim -\frac{1}{r} \leq \frac{x}{r} \leq \frac{\omega}{r} \rightarrow D_{f(x)} = \left[-\frac{1}{r}, \frac{\omega}{r}\right] = D_{\frac{x}{r}}$$

$$R_{f(x)} = R_{f(\frac{x}{r}+1)} = \frac{1}{r} R_{rf(x)} \rightarrow R_{f(x)} = [-r, \varepsilon] \Rightarrow$$

$$\Rightarrow y_r = \sqrt{101-1} \mid 0 \in [-r, \varepsilon] \rightarrow \max y_r = \sqrt{1-0}, \min y_r = \sqrt{1-1} \rightarrow$$

$$\Rightarrow R_{y_r} = [0, \sqrt{10}]$$

$$y = \left| \frac{x-r+1}{rx-2+1} \right| + 1 \Rightarrow x < 0 \Rightarrow y = \frac{1-x}{rx-1} + 1 \rightarrow$$

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$$\frac{1-x+rx-c+rx^2-cx}{rx-c} < 0 \rightarrow \frac{rx^2-rx-c}{rx-r} < 0$$

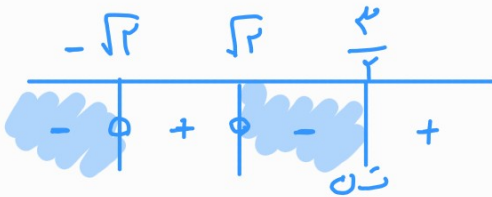
$$\frac{-1}{-1} + \frac{r}{0} - \frac{1}{-1} + \frac{r}{1} \rightarrow x \in (-\infty, -1) \cup \left(\frac{r}{r}, r\right)$$

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

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

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

قدر مطلق مثبت $x < -1 \rightarrow \frac{x-1}{2x-3} < -1-x \rightarrow \frac{2x^2-4}{2x-3} < 0 \rightarrow \frac{2(x-\sqrt{2})(x+\sqrt{2})}{2x-3} < 0$



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