

$$f\left(\frac{3u+2}{5}\right)$$

$$-2 \leq \frac{3u+2}{5} \leq 2$$

$$-10 \leq 3u+2 \leq 10$$

$$-12 \leq 3u \leq 8$$

$$\boxed{-4 \leq u \leq \frac{8}{3}}$$

$$f\left(\frac{t}{2}\right)$$

$$D_f = [-2, 4]$$

$$-2 \leq \frac{t}{2} \leq 4$$

$$-4 \leq t \leq 8$$

$$f\left(\frac{t}{2}\right)$$

$$-1 \leq t \leq 5$$

$$\boxed{-1 \leq u \leq 5}$$

$$f(3u-2)$$

$$D = [-2, 3]$$

$$-2 \leq 3u-2 \leq 3$$

$$-4 \leq 3u \leq 5$$

$$-1 \leq u \leq \frac{5}{3}$$

$$f\left(\frac{t}{2}\right)$$

$$D = [-1, 3]$$

$$-1 \leq \frac{t}{2} \leq 3$$

$$-2 \leq t \leq 6$$

$$-2 \leq 3u+1 \leq 6$$

$$-1 \leq \frac{3u+1}{3} \leq 2$$

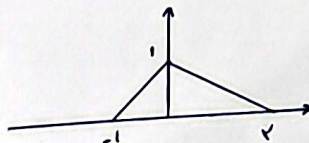
$$f\left(\frac{t}{2}\right)$$

$$-1 \leq 2-5u \leq 5$$

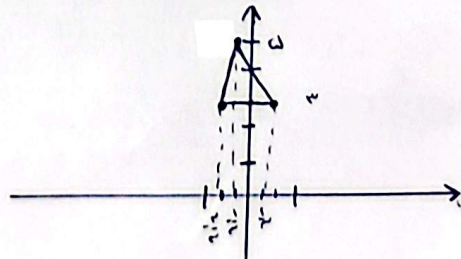
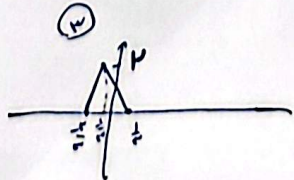
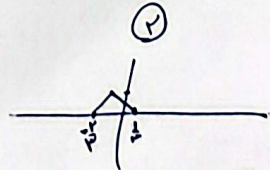
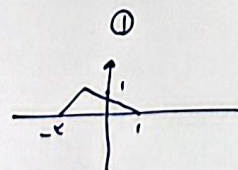
$$-3 \leq -5u \leq 3$$

$$\boxed{\frac{3}{5} \geq u \geq \frac{3}{5}}$$

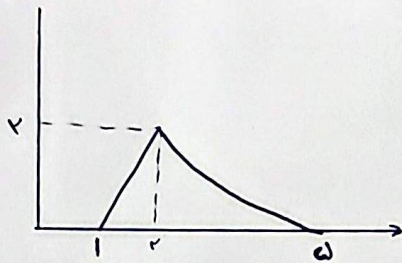
$$f(u)$$



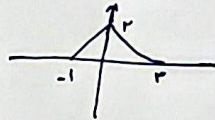
$$g = \frac{1}{5} f\left(\frac{3u+1}{5}\right) + \frac{2}{5}$$



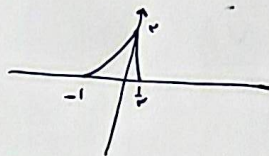
$f(u)$



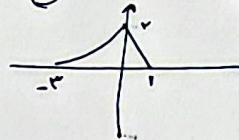
①



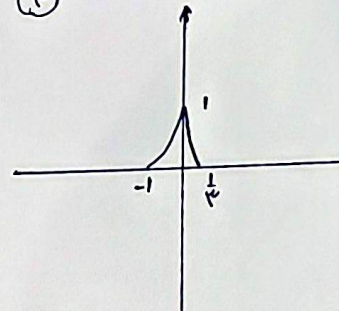
②



③



④



⑤
 $\frac{1}{r} f(r-u)$

⑥

$$J = -\frac{1}{r}u^2 + \frac{r}{0}u + 1 \xrightarrow{\text{مساوی}} S(r, u)$$

$$S_{\text{مساوی}} = \left(\frac{r}{0}, \frac{v}{10} \right)$$

پ: ریشه های تابع جبره:

$$\frac{-b}{2a} = \frac{\frac{0}{r}}{\frac{1}{r}} = \frac{0}{1} = 0$$

$$-\frac{1}{r} \left(\frac{r}{0} \right) + \frac{r}{0} \left(\frac{r}{0} \right) + 1$$

$$-\frac{r}{r0} + \frac{r}{r0} + 1 = \frac{r1}{r0}$$

$$\frac{r}{0} \xrightarrow{\text{مساوی}} 0$$

$$\frac{r1}{r0} \xrightarrow{\text{مساوی}} 1$$

$$f\left(u - \frac{1}{0}\right) + \frac{r1}{r0} \rightarrow$$

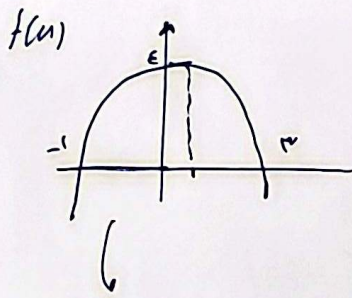
$$\Rightarrow -\frac{1}{r}u^2 + \frac{r1}{10}u + \frac{r11}{r0} + \frac{r}{0}u - \frac{r1}{r0} + \frac{v1}{r0} = -\frac{u^2}{r} + \frac{1}{r}u - v$$

$$\Rightarrow -\frac{1}{r}(u^2 - 1u + v) = 0 \rightarrow -\frac{1}{r}(u-1)(u-v) = 0$$

~~$$\frac{1}{r}(u-1)(u-v) = 0$$~~

$$\begin{aligned} u_1 &= 1 \\ u_2 &= v \end{aligned}$$

١١ من نصي



$$A(\alpha, \beta) \rightarrow \gamma = 1 - r f(r + r)$$

$$\alpha \beta = \beta$$

$$\alpha(1-r)(1+r) \rightarrow \alpha(u^2 - ru - r) \rightarrow \alpha(-1) \neq$$

$$\gamma = -u^2 + ru + r \rightarrow \frac{-b}{2a} = 1 \Rightarrow ru + r = 1$$

$$-(1+r+r) = 1$$

$$ru = -1 \rightarrow \boxed{a = -\frac{1}{r}}$$

$$\frac{-1}{r} = \alpha$$

$$-r = \beta$$

$$\Rightarrow \alpha \beta = \left(\frac{1}{r}\right)$$

$$1 + r f(1) = \gamma$$

$$f(0)$$

$$D_f = (a, 1]$$

$$D_g = [-1, b)$$

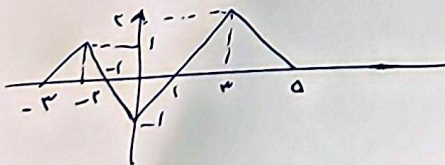
$$\gamma = f(u-1) + g(u+1) \rightarrow D = (-r, 1)$$

$$D = (a, 1] \cap D = [-r, b-1) \rightarrow b-1 = 1 \rightarrow \boxed{b=2}$$

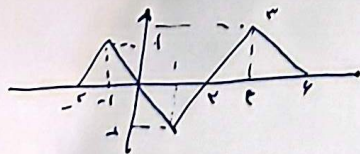
$$a+1 = -r \rightarrow \boxed{a=-r-1}$$

$$a-b = -r-1 = \gamma$$

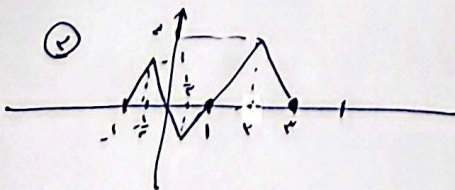
$$\gamma = f\left(\frac{u}{r} + 1\right)$$



①



②



$$\gamma r = \sqrt{|r f(u) - r|}$$

$$f\left(\frac{u}{r} + 1\right)$$

$$-r < u < 1$$

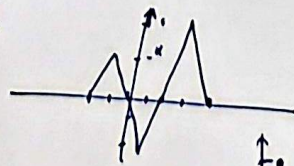
$$\frac{-r}{r} < \frac{u}{r} < \frac{1}{r}$$

$$\frac{-1}{r} < \frac{u}{r} + 1 < \frac{1}{r} + 1$$

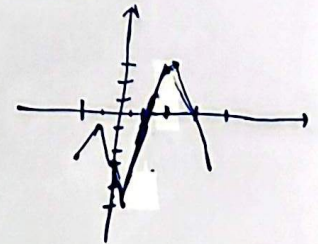
$$\Rightarrow D = \left[-\frac{1}{r}, \frac{1}{r} + 1\right]$$

③

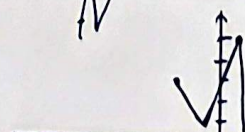
=>



-1



=>



$$R = [0, 1]$$

$$R = [0, 1]$$

معرفه

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

(6)

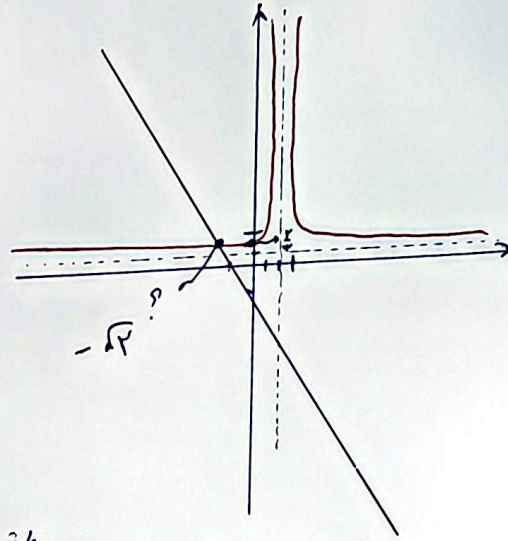
$$u + \left| \frac{u-1}{u-1} \right| + 1 < 0$$

$$\frac{u-1}{u-1} \leq -u-1$$

$$u-1 = -u^2 + u - u + 1$$

$$u^2 = 0$$

$$u = 0 \rightarrow u = \sqrt{2} \rightarrow -\sqrt{2}$$



$$= (-\infty, -\sqrt{2})$$