

$$y = \frac{1}{\mu} x^2 + \frac{r}{\omega} x + 1 \rightarrow x = \frac{r\omega}{\mu}$$

$$\rightarrow x = r \rightarrow (x - \frac{1}{\omega})$$

$$y = -\frac{\frac{r\omega}{\mu}}{\frac{1}{\mu}} = -\frac{r\omega}{\mu} \rightarrow y' = r \rightarrow y = \frac{r\omega}{\mu}$$

$$\Rightarrow y' = -\frac{1}{\mu} x^2 + \frac{r}{\mu} x$$

$$\frac{r}{\mu} = x_1 = 1$$

$$x_2 = r$$

$$x_3 = 1 \quad y_3 = r \rightarrow (1, r) \rightarrow f(x) = (x - r)(x + 1) \quad (r)$$

$$1 - r y (x + r) = 1 - r (x + 1) (x + r) = 1 - r x^2 - (1 + r)x - r \quad (r)$$

$$x_5 = \frac{1}{\mu} \quad y_5 = -r \quad A(-\frac{1}{\mu}, -r) \rightarrow -\frac{1}{\mu} \times (-r) = \frac{r}{\mu} \quad \checkmark$$

$$r - \sqrt{r(x+1)} \rightarrow \sqrt{rx + r + 1}$$

$$\rightarrow \sqrt{rx + r} = \frac{r}{\mu} \rightarrow \sqrt{rx + r} = 1, \omega = \frac{r}{\mu}$$

$$rx + r = \frac{r}{\mu}$$

$$x = \frac{1}{\mu} \quad \checkmark$$

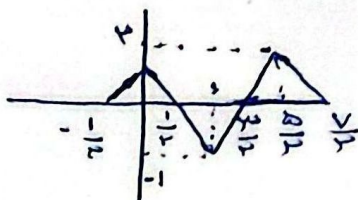
$$Dy = (0, r] \quad , \quad Py = [-1, b) \rightarrow Df(x-1) = (a+1, \omega]$$

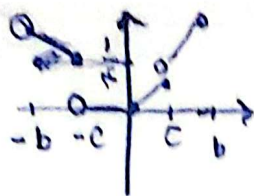
$$Py(x+1) = [-r, b-1) \rightarrow (-r, \omega) \rightarrow \begin{cases} a+1 = -r \\ b-1 = \omega \end{cases} \Rightarrow \begin{cases} a = -r \\ b = \omega \end{cases} \quad \checkmark$$

$$y_1 = y(\frac{1}{\mu}(x+r)) \xrightarrow{x-r} f(\frac{x}{\mu}) \xrightarrow{y} f(x)$$

$$[-r, \omega] \rightarrow [-1, r] \rightarrow [-\frac{1}{\mu}, \frac{r}{\mu}] \quad \checkmark$$

$$Dy \in [-\frac{1}{\mu}, \frac{r}{\mu}] \quad Ry \in [0, \sqrt{r+\omega}] \quad \checkmark$$





$$g = \frac{x}{a} [ax] \rightarrow \begin{aligned} (-b, 0] &\rightarrow -dx \\ (0, b] &\rightarrow \frac{1}{a} dx \\ (b, b] &\rightarrow dx \end{aligned}$$

$$b = -x \rightarrow \frac{x}{a} [-x] \Rightarrow b = 1$$

$$b = 1 \quad c = \frac{1}{a}$$

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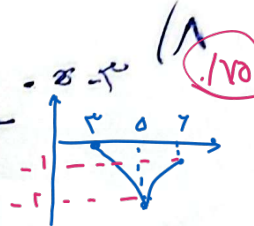
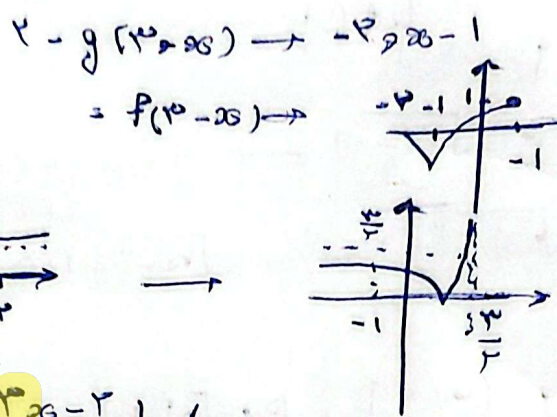
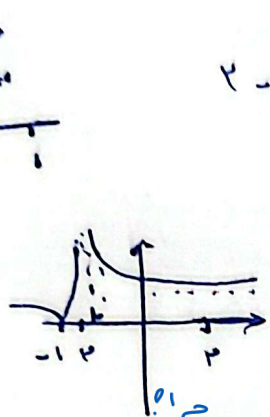
$$g(x) \rightarrow x + 1 \rightarrow -g \rightarrow -g + x \rightarrow -x$$

$$\rightarrow x - \log \frac{x-x}{x} = g(x) \quad (x - \log \frac{x}{x}) + (x - \log \frac{x}{x})$$

$$= (-x)$$

(10)

$$\begin{aligned} -x \leq x \leq 1 &\rightarrow x \leq x \leq 1 \\ x \leq x-1 \leq 0 &\rightarrow x \leq x-1 \\ 0 \leq x \leq 1 \\ 1 \leq x \leq 2 &\rightarrow -1 \leq x-1 \leq 1 \\ -x \leq x-1 \leq 0 \end{aligned}$$



(10)

(10)

$$g(n) = \left| \frac{n-1}{n-2} \right| + 1 \rightarrow g(n) + n \leq$$

$$\frac{n-1}{n-2} < -1-n \rightarrow \frac{n-1}{n-2} < -1-n \rightarrow n < -1$$

$$\frac{n-1}{n-2} < -1-n \rightarrow \frac{n-1}{n-2} < -1-n \rightarrow n < -1$$

$$(0, 0), (1, 1), (2, 2)$$

(10)

$$g(x) = \sqrt{f(x)(2\lambda - f(x))} \quad \begin{cases} f(x) = 0 \rightarrow x = 0 \\ f(x) + 2\lambda = 0 \rightarrow x = \lambda \end{cases}$$

$$x \in \{0, \lambda, 2\lambda\} \rightarrow$$

(10)

$$f(n) = k(n-1)^r + r \quad k < \frac{r}{n}$$

$$f(n) \leq n \rightarrow f(n) \leq n \rightarrow n < \frac{r}{n}$$

$$f(n) \leq n \rightarrow n < \frac{r}{n} \quad n \in [\frac{r}{n}, \frac{r}{n}]$$