

19, VA

الماتري

Date

Subject

①

$$-r \leq \frac{r_{n+1}}{r} \leq r \Rightarrow -1 \leq r_{n+1} \leq r$$

$$\Rightarrow -1 \leq r_n \leq 1 \Rightarrow -1 \leq n \leq 1 \quad (2)$$

②

$$-1 \leq n \leq 1 \Rightarrow -1 \leq r_n \leq 1 \Rightarrow -1 \leq r_{n-1} \leq 1 \quad (2)$$

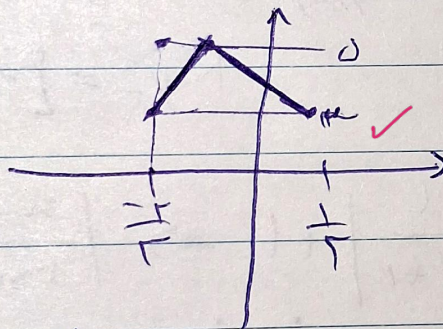
③

$$-1 \leq n \leq 1 \quad \left(\frac{-1}{1} \right) \leq \frac{r_{n+1}}{r} \leq \left(\frac{1}{1} \right) = 1 \quad (2)$$

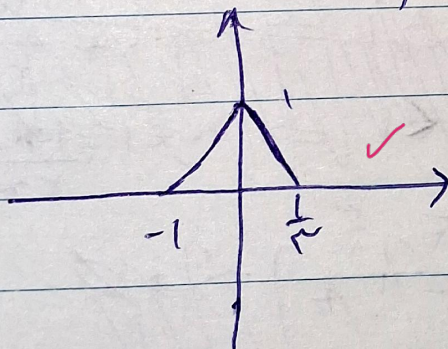
$$\Rightarrow -1 \leq r - \delta n \leq 1 \Rightarrow -1 \leq r - \delta n \leq 1 \Rightarrow \frac{-1}{\delta} \leq n \leq \frac{1}{\delta}$$

$$\Rightarrow n \in \left[\frac{-1}{\delta}, \frac{1}{\delta} \right] \quad (2)$$

④



⑤



⑥

$$-\frac{1}{r} (n-r)^r + r = 0 \quad (n-r)^r = r$$

$$\begin{cases} n-r = r \Rightarrow n = 2 \\ n-r = -r \Rightarrow n = 0 \end{cases} \quad (2)$$

Date _____

Subject _____

$$\textcircled{1} \quad r\alpha + r = 1 \Rightarrow \alpha = \frac{-1}{r} \checkmark$$

(۲)

$$1 - r(\frac{-1}{r}) \checkmark = \beta \Rightarrow \beta = \frac{1}{r} \checkmark$$

$$\textcircled{1} \quad P_{f(n)} = (\alpha + 1, \Delta) \quad P_{g(n+1)} = [-r, b-1]$$

(۲)

$$b-1 = \Delta \Rightarrow b = \Delta + 1 \checkmark$$

$$-r - \gamma = -q \checkmark$$

$$a+1 = -r \Rightarrow a = -r-1 \checkmark$$

$$\textcircled{9} \quad -r \leq n \leq \Delta \Rightarrow \frac{-r}{r} \leq \frac{n}{r} \leq \frac{\Delta}{r} \Rightarrow \frac{-1}{1} \leq \frac{n}{r} + 1 \leq \frac{1}{1}$$

$$\Rightarrow P_{f(n)} = [\frac{-1}{r}, \frac{1}{r}] \checkmark \mid R_{f(n)} = [-1, r] \Rightarrow |r[-1, r] - r|$$

$$R_{y_r} = [0, \Delta] \checkmark$$

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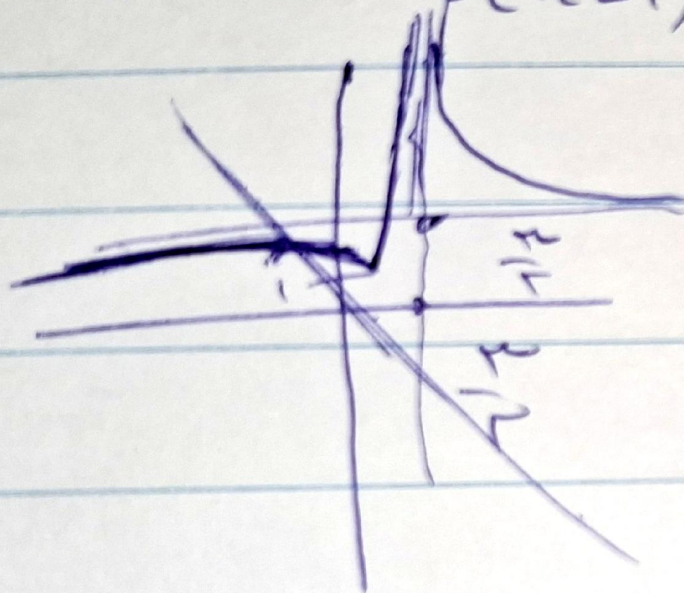
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Date _____

Subject _____

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



$$\leadsto g(n) = n$$

$$\Rightarrow \frac{n-1 + 1n + 1n + 1n-1}{1n-1} =$$

$$\frac{1n-1}{1n-1} = 0 \rightarrow n^2 = 1$$

$$n = \pm 1$$

$$\checkmark \underline{n < -1.6}$$

$$D_{y_1} = [-r, \Delta] \rightarrow -r \leq u \leq \Delta \rightarrow -\frac{1}{r} \leq \frac{u}{r} + 1 \leq \frac{\Delta}{r} \Rightarrow D_f = \left[-\frac{1}{r}, \frac{\Delta}{r}\right]$$

9

$$R_{y_1} = [-1, r] \rightarrow -1 \leq t \leq r \rightarrow -\Delta \leq rt - r \leq 1 \rightarrow 0 \leq |rt - r| \leq \Delta$$

$$0 \leq \sqrt{|rt - r|} \leq \sqrt{\Delta} \Rightarrow R_f = [0, \sqrt{\Delta}]$$