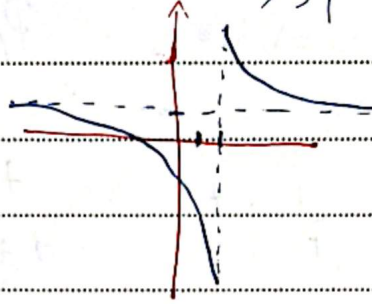


17, 15

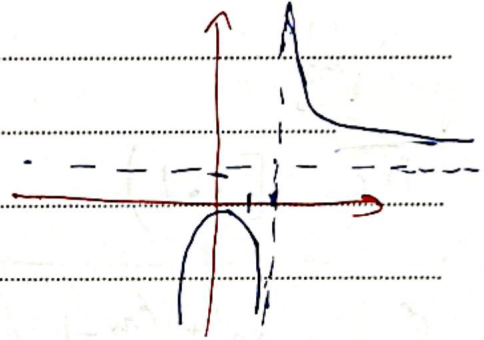
عرفان حقیق دوازدهم سر B

الف) $\frac{n+1}{n-2}$



(2)

$$\Rightarrow \frac{|n|+1}{|n|-2} \Rightarrow$$



$$R_f = (-\infty, -\frac{1}{2}] \cup (1, +\infty)$$

$$\therefore \frac{n^2+1}{|n|} \stackrel{|n|=+}{=} \frac{+^2+1}{+} \Rightarrow + + \frac{1}{+}$$

جمع دو عدد منکوس مثبت هواره از 2 بزرگتر است

$$R_f = [2, +\infty)$$

$$1) \quad y(n+2) = n^2 + 2n - 2 \Rightarrow y n + 2y = n^2 + 2n - 2$$

$$n^2 + (2-y)n - 2y + 2 = 0 \Rightarrow \Delta \geq 0 \Rightarrow (2-y)^2 - 4(-2y+2) \geq 0$$

$$\Rightarrow y^2 + 8y + 12 \geq 0 \Rightarrow (y+2)(y+4) \geq 0 \Rightarrow (-\infty, -4] \cup [-2, +\infty)$$

$$R_f = (-\infty, -4] \cup [-2, +\infty)$$

$$r) \quad n - n + 1 \neq 0 \text{ ممتنع } \Rightarrow \mathbb{P}_f = \mathbb{R} \quad (r)$$

$$\frac{\left(n - \frac{1}{r}\right)^r}{\left(n - \frac{1}{r}\right)^r + \frac{r}{r}} \Rightarrow n - \frac{1}{r} = t \Rightarrow \frac{t}{t + \frac{r}{r}} \quad t \begin{cases} \max = +\infty \\ \min = 0 \end{cases}$$

$$\mathbb{R}_f = [0, 1] \checkmark$$

$$r) \quad -m^r + (n-1) \quad \left| \begin{matrix} r \\ r \end{matrix} \right. \quad [-\infty, r] \quad (r)$$

$$\sqrt{-m^r + (n-1)} \Rightarrow [0, \sqrt{r}] \checkmark$$

$$\Rightarrow y = \sqrt{r m^r - 1} \quad \left| \begin{matrix} r \\ -1 \end{matrix} \right. \quad \mathbb{R}_y = [-1, +\infty)$$

$$u) \quad \log \underbrace{n^r - n + 1}_\text{موجب } \Rightarrow \mathbb{R}_y = \mathbb{R} \checkmark \quad (r)$$

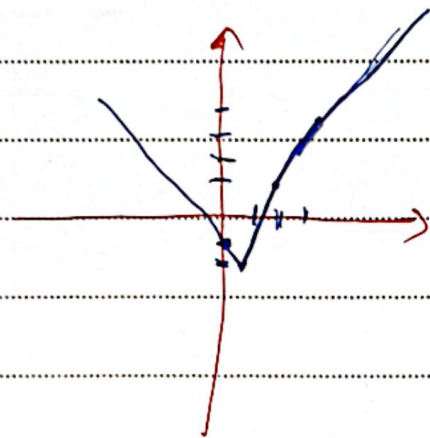
$$\Rightarrow \frac{n^r + 1}{n} \Rightarrow n + \frac{1}{n} \Rightarrow n + \frac{1}{n} \geq r$$

$$\log_r r = 1 \Rightarrow \mathbb{R}_v = [1, +\infty) \checkmark$$

✓

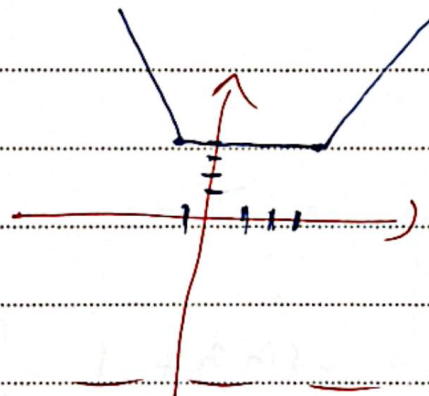
$$\begin{array}{c} \mu \\ \hline -\mu_n + \mu_{n-1} - \mu \quad ; \quad \mu_n - \mu_{n-1} - \mu \quad ; \quad \mu_n - \mu_{n-1} + \mu \\ -n-1 \quad ; \quad \mu_n - \mu \quad ; \quad n+1 \end{array}$$

(2) - 4



$$R_y = [-\mu, +\infty)$$

-) $R_y = [\mu, +\infty)$



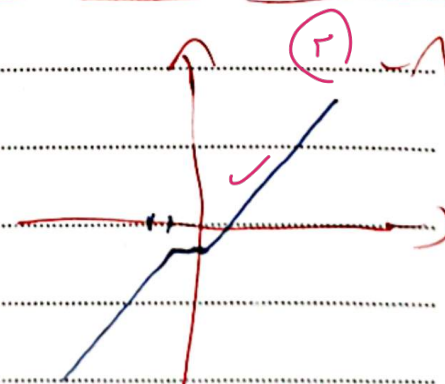
$$\begin{array}{c} -1 \quad \mu \\ \hline -n + \mu + \mu_{n-1} - \mu \quad ; \quad -n + \mu - \mu_{n-1} - \mu \quad ; \quad n - \mu - \mu_{n-1} - \mu \\ n + \mu \quad ; \quad -\mu_n \quad ; \quad -n - \mu \end{array}$$

(1) - 5
صفحة آخره

$$n \in [-\mu, \mu] \cup \left[-\frac{1}{\mu}, \frac{1}{\mu}\right]$$

$$-\frac{1}{\mu}$$

$$\begin{array}{c} -\frac{1}{\mu} \quad 0 \\ \hline \mu_n + \mu_{n-1} - \mu \quad ; \quad \mu_n - \mu_{n-1} - \mu \quad ; \quad \mu_n - \mu_{n-1} + \mu \\ \mu_n + 1 \quad ; \quad -1 \quad ; \quad \mu_n - 1 \end{array}$$



✓ $R_y = \mathbb{R}$

الف) $y = [x] + [2-x]$

(1) (9)

① $-2 < x < -1 \Rightarrow y = -2 + 2 = 0$

② $-1 < x < 0 \Rightarrow y = -1 + 2 = 1$

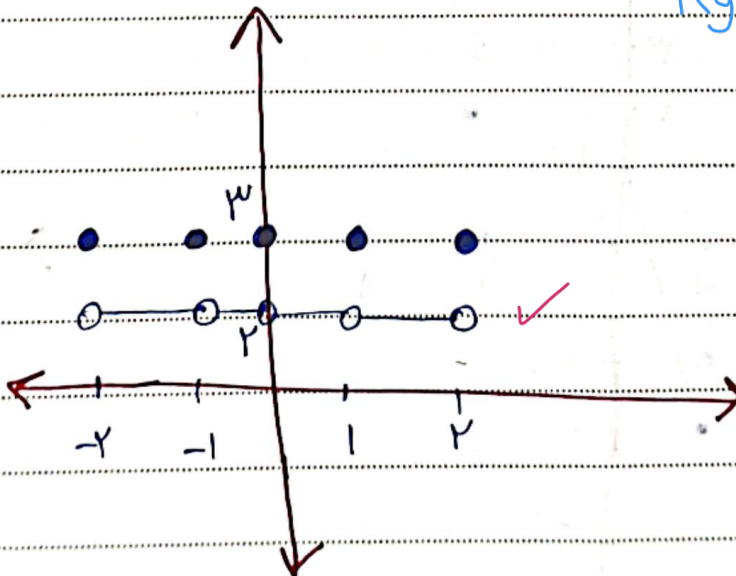
بردار خواستیم

③ $0 < x < 1 \Rightarrow y = 0 + 2 = 2$

④ $1 < x < 2 \Rightarrow y = 1 + 1 = 2$

⑤ $x = -2 \Rightarrow y = -2 + 2 = 0$
 $x = -1 \Rightarrow y = -1 + 2 = 1$
 $x = 0 \Rightarrow y = 0 + 2 = 2$
 $x = 1 \Rightarrow y = 1 + 2 = 3$
 $x = 2 \Rightarrow y = 2 + 1 = 3$

$R_y = \{2, 3\}$



✓

Viana

subject :

Year :

Month :

Date :

$$\rightarrow y = 3x - [x]$$

$$①) -2 \leq x < -1 \Rightarrow y = 3x + 2 \quad \begin{cases} x = -2 \Rightarrow y = -4 \\ x = -1 \Rightarrow y = -1 \end{cases}$$

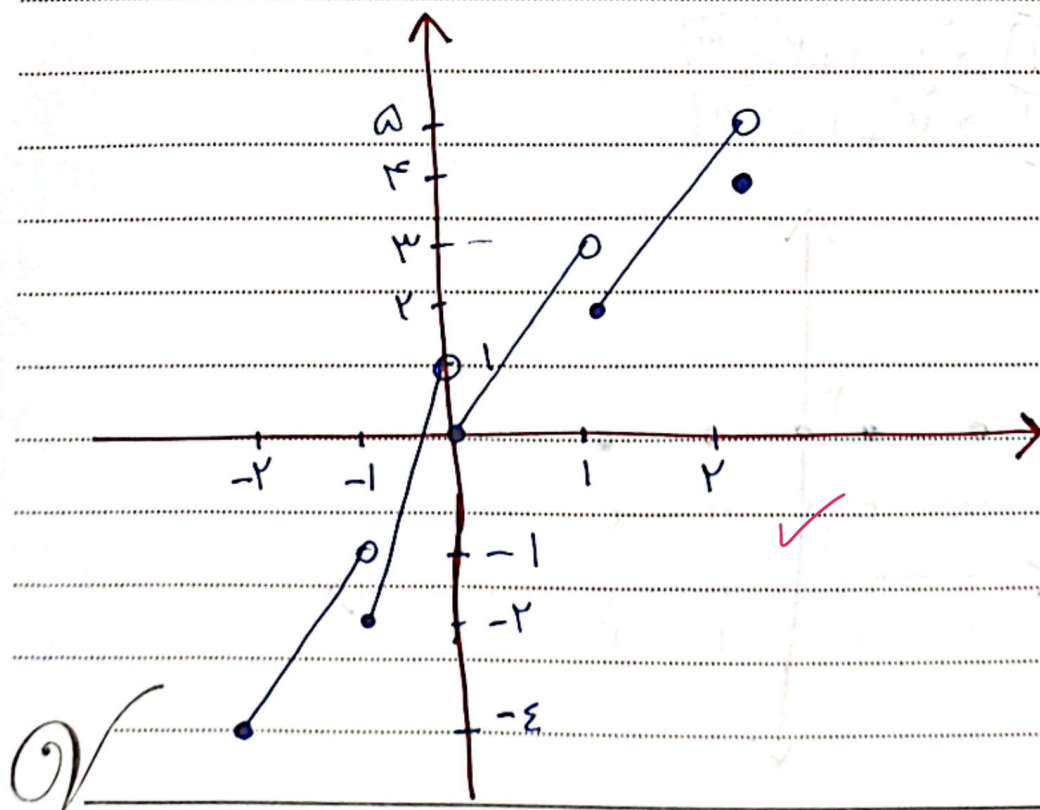
$$②) -1 \leq x < 0 \Rightarrow y = 3x + 1 \quad \begin{cases} x = -1 \Rightarrow y = -2 \\ x = 0 \Rightarrow y = 1 \end{cases}$$

$$③) 0 \leq x < 1 \Rightarrow y = 3x \quad \begin{cases} x = 0 \Rightarrow y = 0 \\ x = 1 \Rightarrow y = 3 \end{cases}$$

$$④) 1 \leq x < 2 \Rightarrow y = 3x - 1 \quad \begin{cases} x = 1 \Rightarrow y = 2 \\ x = 2 \Rightarrow y = 5 \end{cases}$$

$$⑤) x = 2 \Rightarrow y = 4 - 2 = 2$$

$$R_y = [-2, \infty)$$



$$\begin{aligned} \rightarrow x=0 &\Rightarrow y=0+1=1 \\ \rightarrow x=\pi &\Rightarrow y=0+1=1 \\ \rightarrow x=\pi &\Rightarrow y=1+1=2 \end{aligned}$$

$$y = \sin x - \sin x + 1 \quad \left\{ \begin{array}{l} \frac{1}{2} \\ -1 \end{array} \right. \quad \frac{\pi}{2} \quad \boxed{\pi} \text{ max}$$

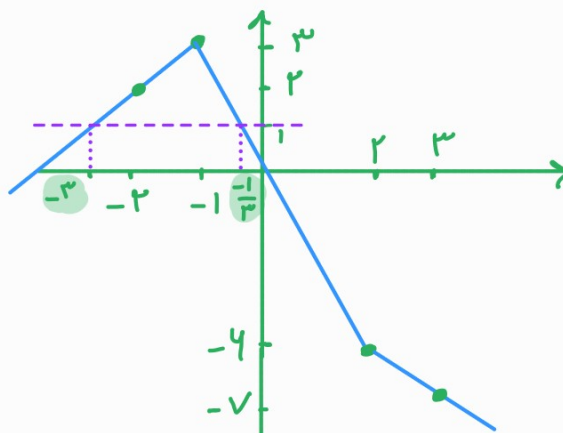
$$R_y = \left[\frac{\pi}{2}, \pi \right]$$

$$y = \sin^2 x + \sin^2 x + 1 \Rightarrow + + + 1 \quad \left\{ \begin{array}{l} -\frac{1}{2} \\ 1 \end{array} \right.$$

$$R_y = [1, 3]$$

$$\begin{cases} -u - r & u \geq r \\ -ru & -1 \leq u \leq r \\ u + r & u \leq -1 \end{cases}$$

$$R_y = (-\infty, -r] \cup [-\frac{1}{r}, +\infty)$$



-v