

if $n-1=0 \rightarrow \overline{000}$

5. $f(x) = x^2 - 1$ $\Rightarrow x < 1 \Rightarrow \frac{1}{x-1} = 1 - x \Rightarrow x^2 - 1 + x - 1 \Rightarrow x^2 - x - 2 = 0$
 $x = 2$ or $x = -1$

[illegible]

[illegible]

$$(-\infty, 0) \cup (1, +\infty) = \{x\}$$

$$\frac{1}{x} \cdot \frac{x-1}{x+1} \rightarrow \text{Partial Fraction Decomposition: } \frac{-1}{x} = \frac{\frac{-1}{x}}{x-1} + \frac{\frac{1}{x}}{x+1}$$

$$\frac{1}{x} : \frac{a-x}{x+1} > 1 \rightarrow x < -x \Rightarrow (-\infty, -x)$$

$$\gamma: \frac{r-m}{r_{m+1}} > 1 \Rightarrow \frac{-1}{r} < \frac{1}{r} \Rightarrow \left(\frac{-1}{r}, \frac{1}{r} \right) \left\{ \frac{\{\bar{r}\}!}{0} \rightarrow 1 - \infty, -r \mid U\left(\frac{-1}{r}, \frac{1}{r}\right) \right\}$$

$$r = \frac{u_1}{u_{n+1}} \rightarrow n \rightarrow \infty \Rightarrow \bar{r}$$

20 $x+4 > 0 \rightarrow x < -4 \rightarrow x-4 < 0 \rightarrow (x+4)(x-4) < 0 \rightarrow \frac{-4}{+1-1+} = (-4, 4)$

$x-4 < 0 \rightarrow x^2 < x-4 \rightarrow x^2+x+4 < 0 \rightarrow$ معضلاته در زیر مشاهده

$$|m - \alpha| < \beta \rightarrow \alpha = \frac{-r + r}{r} = \frac{1}{r} \text{ q } \beta \Rightarrow m = -r \Rightarrow \beta = +\frac{\Delta}{r} \Rightarrow |m - \frac{1}{r}| < \frac{\Delta}{r} \Rightarrow \boxed{\alpha = \frac{1}{r}}$$

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$$y = \cancel{1n+11} - \cancel{1n} + \cancel{1n-11}$$

$$\begin{array}{c|c|c|c}
 -1 & 0 & +r & \textcircled{E} \\
 \hline
 -u+1-x_n-x_{n+r} & u+1-x_n-u+r & u+1-x_n-u+r & u+1-x_n-u-r \\
 \downarrow & \downarrow & \downarrow & \downarrow \\
 \textcircled{1} & x_{n+r} & -x_{n+r} & \textcircled{-1} \\
 \downarrow & \downarrow & \downarrow & \\
 \textcircled{(1)r} & \textcircled{(-1)r} & &
 \end{array}$$

30. $\min = -1$ $\Rightarrow$
 $\max = 5 \rightarrow \min + \max = 5 + (-1) = 4$

$$|\frac{1}{r}m| \leq x \xrightarrow{\text{...}} |\frac{1}{r}m| \leq 1-x \xrightarrow{\text{...}} |\frac{1}{r}m| \leq 1-x+1 = |\frac{1}{r}m+1| - 1 \quad (a)$$

$$|\frac{1}{r}m| - 1 = |\frac{1}{r}m+1| - 1 \quad \begin{cases} -1 \leq m \leq 0 \rightarrow \frac{-m}{r} - 1 = \frac{1}{r}m + 1 - 1 = \boxed{m = -1} \\ 0 < m \rightarrow \frac{1}{r}m - 1 = \frac{1}{r}m - 1 \rightarrow \text{...} \\ m < -1 \rightarrow \frac{-m}{r} - 1 = \frac{1}{r}m - 1 - 1 \rightarrow \text{...} \end{cases}$$

$$\text{ii) } 1 < m \rightarrow \{m-1-m-1\} = \{-2\} = (-2) \quad (4) \\ -1 \leq m \leq 1 \rightarrow \{1-m-m-1\} = \{-2m\} - 1 \quad \begin{cases} m = -1 \rightarrow y = 0 \\ m = +1 \rightarrow y = -2 \end{cases} \rightarrow [-2, 0] \\ m < -1 \rightarrow \{-m+1-m-1\} = \{-2\} = (-2)$$

$$U \rightarrow [-2, 0]$$

$$\Rightarrow y = \frac{1}{m} - \left\{ \frac{m+1}{m} \right\}$$

$$\text{iii) } y = \{-2m\} - 1 \rightarrow m \in (-1, 1) \rightarrow -2m < +1 \rightarrow 2 > 2m > -2 \quad (U)$$

$$\begin{cases} -2 \leq -2m < -1 \rightarrow \{-2m\} = -1, \frac{1}{r} < m < 1 \rightarrow y = -1 \\ -1 \leq -2m < 0 \rightarrow \{-2m\} = 0, 0 < m \leq \frac{1}{r} \rightarrow y = 0 \\ 0 \leq -2m < 1 \rightarrow \{-2m\} = 0, -\frac{1}{r} < m \leq 0 \rightarrow y = 1 \\ 1 \leq -2m < 2 \rightarrow \{-2m\} = 1, -1 < m \leq -\frac{1}{r} \rightarrow y = 0 \end{cases}$$

$$\Rightarrow m - 2\left\{ \frac{m}{r} \right\}, m \in (-2, 2) \rightarrow -1 < \frac{m}{r} < 1 \rightarrow \begin{cases} -1 < \frac{m}{r} < 0 \rightarrow \left\{ \frac{m}{r} \right\} = -1 \\ y = m+2, -1 < m < 0 \\ 0 \leq \frac{m}{r} < 1 \rightarrow \left\{ \frac{m}{r} \right\} = 0 \rightarrow y = m \\ 0 \leq m < 2 \end{cases}$$

$$\text{ii) } y = \{|m|-1\}, m \in [-2, 2] \quad \begin{matrix} \text{Graphs showing } y = |m|-1 \text{ and its piecewise representation} \end{matrix} \quad (A)$$

$$\text{ii) } y = \{m^2 - 2m\}, m \in [-1, 2] \quad \begin{matrix} \text{Graphs showing } y = m^2 - 2m \text{ and its piecewise representation} \end{matrix}$$

Subject:

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① $a \cup \{b\} = \{1, 2\} \rightarrow$ $a = \{1\}$ ، $b = \{2\} \rightarrow$ $b - \{a\} = \{2\}$

$\rightarrow \{a \cup \{b\}\} = \{1, 2\}$ ، $\{b - \{a\}\} = \{2\} \rightarrow \{a\} \cup \{b\} = \{1, 2\}$ ، $\{b\} - \{a\} = \{2\}$

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$\{a\} \cup \{b\} = \{1, 2\} \rightarrow \{b\} = \{2\} \rightarrow \{a\} = \{1\}$ $\frac{\text{منه}}{\text{منه}} \rightarrow b - \{a\} = \{2\} \rightarrow \{b\} = \{2\}$

$\frac{\text{منه}}{\text{منه}} \rightarrow a \cup \{b\} = \{1, 2\} \rightarrow a \cup \{2\} = \{1, 2\} \rightarrow a = \{1\} \rightarrow \{a\} = \{1\}$

$\{a \cup b\} = \{1, 2, 3, 4\} = \{1, 2, 3, 4\}$

$(1 + \sqrt{2})^4 + (1 - \sqrt{2})^4 = 19 \rightarrow \{(1 + \sqrt{2})^4\} = ?$

②

$(1 + \sqrt{2})^4 + (1 - \sqrt{2})^4 \xrightarrow{\sqrt{2} \approx 1.4} \rightarrow (2.4)^4 + (-0.4)^4 = 19 \rightarrow (1 + \sqrt{2})^4 = 19 - (-0.4)^4 = 19$

$\{(1 + \sqrt{2})^4\} = \{19, -\} = 19$ $\leftarrow (1 + \sqrt{2})^4 = 19$