

① تعریف ریاضی $y_1^2 = 2m^2 + 7$ $y_2^2 = 2m^2 + 11$ $\Rightarrow y_1 = y_2$ تابع است

تابع نیست $|y| + m^2 = m + 3$ $\Rightarrow |y| = 3$ $\Rightarrow y = \pm 3$

ع) $\sqrt{m-4} + |y-2| = 0$ $\Rightarrow \sqrt{m-4} = 0$ $\Rightarrow m = 4$ $\Rightarrow y = 2$

د) $m = \cos y$ $\Rightarrow m = 1$ $\Rightarrow 1 = \cos y$ $\Rightarrow y = 0^\circ, 360^\circ$ تابع است

② $y = \frac{m+4}{m^2-4m}$ $\Rightarrow m^2-4m = 0$ $\Rightarrow m(m-4) = 0$ $\Rightarrow m = 0$ $\Rightarrow m = 4$ $\Rightarrow R - [0, 4]$

ب) $y = \frac{m+4}{m^2-7m+16}$ $\Rightarrow \Delta = b^2 - 4ac$ $\Rightarrow 49 - 4(1 \times 16) = -15$ $\Rightarrow \emptyset$

ع) $y = \frac{m+4}{m^2+m+4}$ $\Rightarrow \Delta = b^2 - 4ac$ $\Rightarrow 1 - 4(1 \times 4) = -15$ $\Rightarrow \emptyset$

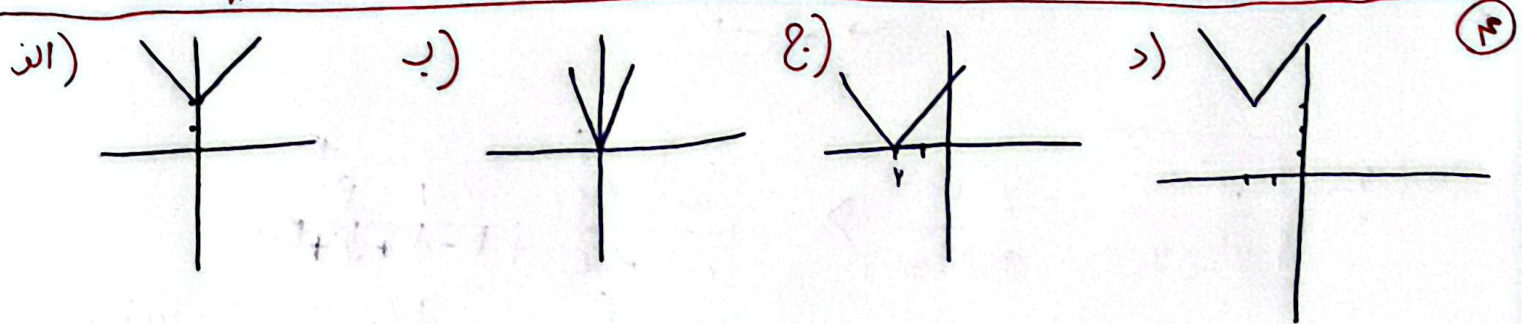
د) $y = \frac{m+4}{m^2-4m^2}$ $\Rightarrow m^2-4m^2 = 0$ $\Rightarrow m^2(m-4) = 0$ $\Rightarrow m = 0$ $\Rightarrow m = 4$ $\Rightarrow R - [0, 4]$

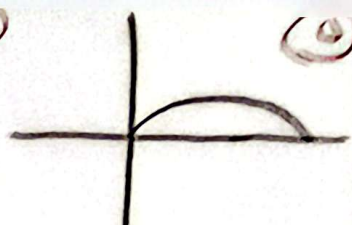
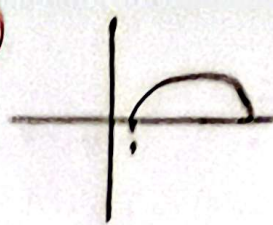
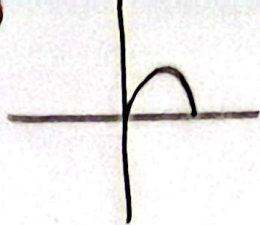
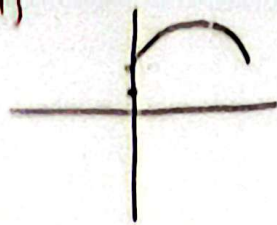
③ $y = \sqrt{4-m} + \sqrt{m-2}$ $\Rightarrow 4-m \geq 0$ $\Rightarrow m \leq 4$ $\Rightarrow m-2 \geq 0$ $\Rightarrow m \geq 2$ $\Rightarrow D_f = [2, 4]$

ب) $y = \frac{m+1}{m^2+1}$ $\Rightarrow m^2+1 \neq 0$ $\Rightarrow m^2 = -1$ $\Rightarrow \emptyset$ $\Rightarrow D_f = \{m \in R\}$

ع) $y = \frac{\sqrt{m-2}}{m-4}$ $\Rightarrow m-4 \neq 0$ $\Rightarrow m \neq 4$ $\Rightarrow D_f = R - \{4\}$

د) $y = \frac{2m+3}{|m|+m^2}$ $\Rightarrow |m|+m^2 = 0$ $\Rightarrow m = 0$ $\Rightarrow D_f = R - \{0\}$





الف) $y = \frac{(x/r)(x/r^*)}{(x/\varepsilon)} \rightarrow \frac{r}{-p} + \frac{r}{p} - \frac{r}{p} + \dots$ $D_f = [\varepsilon, +\infty) \cup [r, r]$ (6)

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ب) $y = \frac{(x/r)(x/\varepsilon)}{(x/r^*)^2}$ $\frac{r}{+p} - \frac{r}{p} - \frac{r}{p} + \dots$ $D_f = [\varepsilon, +\infty) \cup (-\infty, r]$

الف) $y = \frac{x^r - rx + r}{x - r}$ $\rightarrow \frac{(x/r)(x/r^*)}{r(x/r^*)}$ $\frac{1}{-p} + \frac{r}{p} - \frac{r}{p} + \dots$ $D_f = (r, +\infty) \cup [r, r]$ (8)

ب) $y = \frac{x^r - rx + r}{x^r - \varepsilon x + r}$ $\rightarrow \frac{(x/r)(x/r^*)}{(x/r)(x/r^*)}$ $\frac{1}{+p} + \frac{r}{p} - \frac{r}{p} + \dots$ $D_f = \mathbb{R} - [r, r] \cup [1]$

الف) $y = \frac{x^r - x^r}{(x^r + x + r)}$ $\rightarrow \frac{1}{x^r(x^r - 1)}$ $\frac{-1}{+p} - \frac{0}{p} - \frac{1}{p} + \dots$ $D_f = [1, +\infty) \cup (-\infty, -1)$ (9)

دлина صغيرة $\rightarrow$ $\frac{1}{x^r(x^r - 1)}$

ب) $y = \frac{x^r + rx + \varepsilon}{x^r + \varepsilon x + r}$ $\rightarrow$ $\frac{1}{x^r(x^r - 1)}$ $\rightarrow x \in \mathbb{R}$

این عبارت برای x انداد حقیقی مثبت است $\rightarrow x \in \mathbb{R}$

الف) $y = \sqrt{\frac{x^r - 1}{x^r - x}}$ $\rightarrow \frac{x^r - 1}{x^r - x} \geq 0$ $\frac{-1}{+p} - \frac{0}{p} - \frac{1}{p} + \dots$ $D_f = (1, +\infty) \cup (0, 1) \cup (-1, -\infty)$ (10)

$\rightarrow x \geq 1$ $\rightarrow x \leq -1$

ب) $y = \sqrt{\frac{x^r - 1}{x^r - \varepsilon x + \varepsilon}}$ $\rightarrow \frac{x^r - 1}{x^r - \varepsilon x + \varepsilon} \geq 0$ $\rightarrow \frac{(x/\varepsilon)(x/\varepsilon)}{(x/r)(x/r^*)}$ $\frac{-\varepsilon}{+p} - \frac{1}{p} - \frac{\varepsilon}{p} + \dots$ $D_f = (\varepsilon, +\infty) \cup (1, \varepsilon) \cup [-\varepsilon, -1]$