

الف) $y_1^2 - n = 2m^2 \rightarrow y_1^2 = 2m^2 + n$ تابع هست $y_1^2 = y_2^2$

ب) $|y| + m^2 = n + 2 \rightarrow n = 0 \quad |y| = 2 \rightarrow y = \pm 2$ تابع نیست

ج) $\sqrt{n-2} + |y-2| = 0 \rightarrow |y-2| = 0 \rightarrow y = 2, \sqrt{n-2} = 0 \rightarrow n = 2$ تابع است

د) $n = \cos y \rightarrow n = 0 \rightarrow 0 = \cos y \rightarrow y = \pi, 2\pi, \dots$ تابع نیست

الف) $y = \frac{n+4}{n^2-5n} \rightarrow \frac{(n+4)}{(n-2)(n+1)} = \frac{-4}{-1} + \frac{2}{-1} + \frac{2}{-1} + \frac{2}{-1} \quad [-4, -2) \cup [2, +\infty)$

ب) $y = \frac{n+4}{n^2-5n} \rightarrow -4 + \frac{2}{-1} + \frac{2}{-1} + \frac{2}{-1} + \frac{2}{-1} \quad [-4, +\infty)$

ج) $\frac{n+4}{n^2-5n} \rightarrow -4 \quad [-4, +\infty)$ د) $y = \frac{n+4}{n^2-5n} = \frac{n+4}{n(n-5)}$

$y = \sqrt{4-n} + \sqrt{n-2} =$

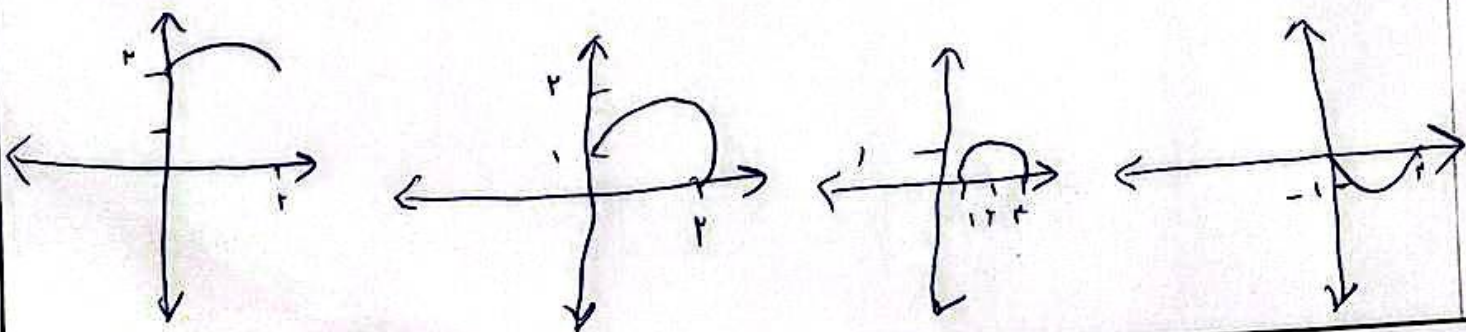
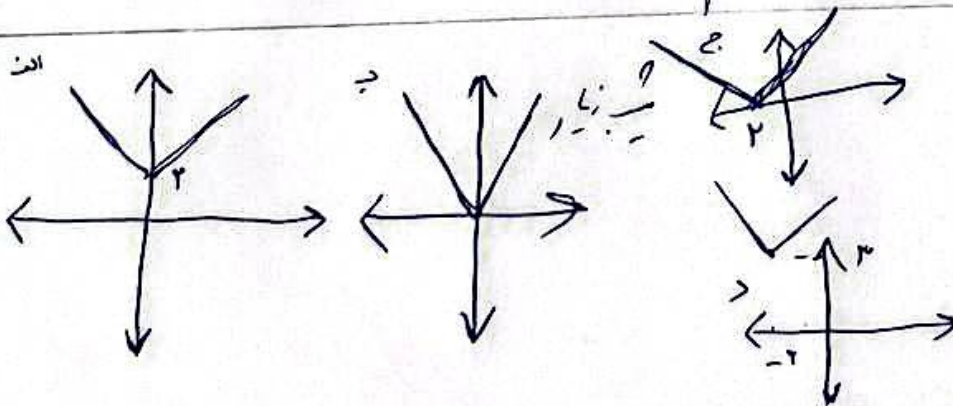
$4-n \geq 0$

$n \geq 2 \rightarrow (-\infty, 4] \cup (-\infty, 2]$

$y = \frac{2m+1}{m^2+1} \rightarrow \mathbb{R}$

$y = \frac{\sqrt{n-2}}{n+5} \rightarrow \frac{0}{\neq 0} \rightarrow \neq 0$

$y = \frac{2m+1}{m^2+1} \rightarrow \mathbb{R} \setminus \{0\}$



$$\text{اذا } y = \frac{(m-2)(m-1)(m-3)}{m-2} \quad \begin{array}{c} 2 \quad 1 \quad 3 \\ - \quad + \quad - \quad + \end{array}$$

$$\text{ب) } y = (m-2)(m-1)(m-3) \quad \begin{array}{c} 2 \quad 1 \quad 3 \\ + \quad - \quad - \quad + \end{array}$$

$$\text{اذا } y = \frac{(m-2)(m-1)}{m-2} \quad \begin{array}{c} 2 \quad 1 \quad 3 \\ - \quad + \quad - \quad + \end{array}$$

$$\text{ب) } y = \frac{(m-2)(m-1)}{(m-2)^2} \quad \begin{array}{c} 1 \quad 1 \quad 3 \\ + \quad - \quad - \quad + \end{array}$$

~~$$\text{اذا } y = \frac{(m-2)(m-1)(m-3)}{m-2} \quad \begin{array}{c} 2 \quad 1 \quad 3 \\ - \quad + \quad - \quad + \end{array}$$~~

$$y = \frac{m^2 - 3m + 2}{m-2} \xrightarrow{\text{تقسيم}} \frac{m-1}{1} = (m+1)(m-1)^2$$

$$\Rightarrow \frac{(m-1)(m-2)}{(m-1)(m-2)} \quad \begin{array}{c} 1 \quad 2 \quad 2 \\ + \quad + \quad - \quad + \end{array}$$

$$\text{اذا } y = \frac{m^2 - m^2}{m^2 + m + 2} \Rightarrow \begin{array}{c} -1 \quad 0 \quad +1 \\ + \quad - \quad - \quad + \end{array}$$

$$\text{ب) } \frac{m^2 + 2m + 2}{m^2 + m + 2} \xrightarrow{\text{تقسيم}} \frac{m+2}{1} = (m+2)(m-1)$$

$$\text{اذا } y = \sqrt{\frac{m^2 - 1}{m^2 - m}} \Rightarrow y = \frac{m^2 - 1}{m^2 - m} \geq 0 \quad \frac{m^2 - 1}{m(m-1)^2}$$

$$\begin{array}{c} -1 \quad 0 \quad +1 \\ + \quad - \quad - \quad + \end{array} \quad (-\infty, -1) \cup (0, 1) \cup (1, \infty)$$

$$\text{ب) } y = \sqrt{\frac{m^2 - 14}{m^2 - 6m + 8}} \Rightarrow y = \frac{m^2 - 14}{m^2 - 6m + 8} \geq 0 \Rightarrow y = \frac{(m+2)(m-8)}{(m-1)}$$

$$\begin{array}{c} -2 \quad 1 \quad 8 \\ + \quad - \quad + \quad + \end{array} \quad (-\infty, -8) \cup (1, 8) \cup (8, +\infty)$$