

$$2) \frac{n+2}{n^2-2n^2} \quad n^2-2n^2 \neq 0 \quad \frac{n^2-2n^2}{n^2(n-2)(n+2)} = \frac{n^2-2n^2}{n^2(n-2)(n+2)}$$

$$n=0 \quad n=2 \quad n=-2 \quad Dy = \mathbb{R} - \{-2, 0, 2\}$$

$$y = \sqrt{4-n} + \sqrt{n-2} \quad 4-n \geq 0 \quad n \leq 4$$

$$2 \leq n \leq 4$$

$$n-2 \geq 0 \quad n \geq 2$$

$$Dy = \{2, 4\}$$

$$y = \frac{3n+1}{n^2+1}$$

$$n^2+1 \neq 0$$

$$Dy = \mathbb{R}$$

از این مفاد استفاده نمی!

$$Dy \in [2, 4]$$

$$y = \frac{\sqrt{n-2}}{n-2}$$

$$\rightarrow n-2 \geq 0 \rightarrow n \geq 2 \quad n-2 \neq 0 \quad n \neq 2$$

$$Dy = [2, 2) \cup (2, \infty)$$

$$y = \frac{4n+3}{|n|+n^2}$$

$$|n|+n^2 \neq 0$$

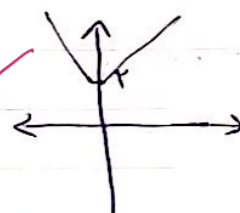
$$|n|+n^2 = n+n^2 = n(n+1)$$

$$n=0 \quad n=-1$$

$$|n|+n^2 = -n+n^2 = n^2-n = n(n-1) \rightarrow n=0 \quad n=1$$

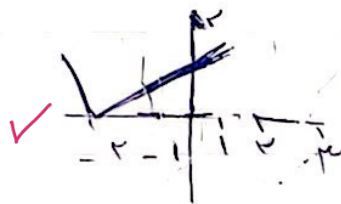
$$Dy = \mathbb{R} - \{0\}$$

$$y = |n| + 2$$

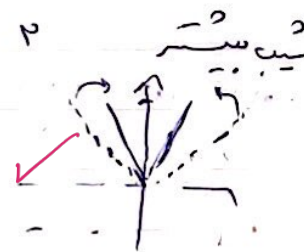
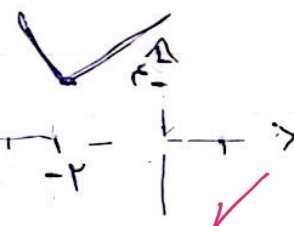


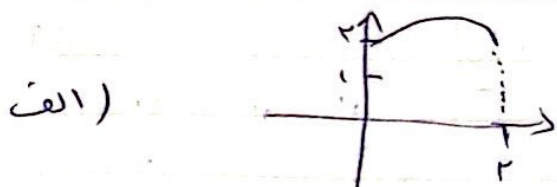
$$y = 2|n| \rightarrow n=1 \rightarrow y=2 \quad n=-1 \rightarrow y=2$$

$$y = |n+2|$$

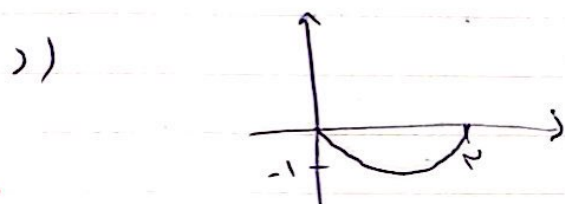
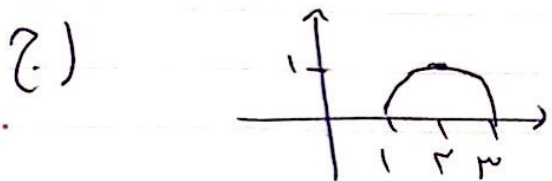


$$y = |n+2| + 2$$

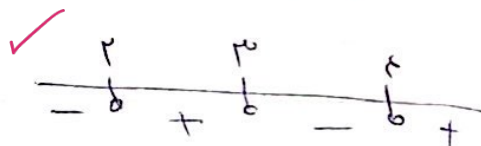




(2) (5)



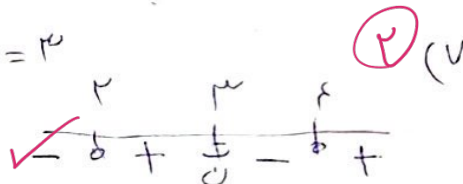
$$y = (x-2)(x-3)(x-4) \quad x=2 \quad x=3 \quad x=4 \quad (2) (6)$$



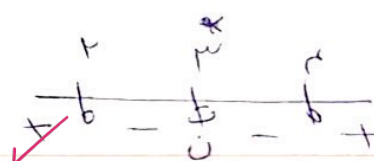
$$y = (x-2)(x-3)^2(x-4) \quad x=2 \quad x=3 \quad x=4$$



$$y = \frac{(x-2)(x-4)}{x-3} \rightarrow x=2 \quad x=4 \quad x=3$$

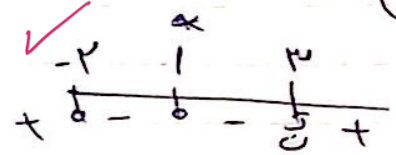


$$y = \frac{(x-2)(x-4)}{(x-3)^2} \quad x=2 \quad x=4 \quad x=3$$

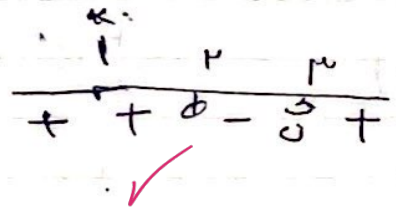


$$y = \frac{n^2 - 3n + 2}{n - 2}$$

$$y = \frac{(n-1)(n+2)}{n-2}$$

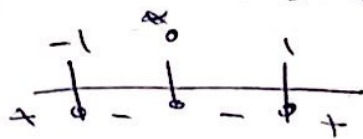


$$y = \frac{n^2 - 3n + 2}{n^2 - 4n + 6} = \frac{(n-1)(n-2)}{(n-1)(n-3)}$$



~~مطلوب~~
~~مطلوب~~
~~مطلوب~~

$$\text{الف) } \frac{n^2 - n}{n^2 + n + 2} = \frac{n^2(n^2 - 1)}{n^2(n^2 + n + 2)} \rightarrow \frac{n^2(n+1)(n-1)}{n^2(n^2 + n + 2)}$$



$$\Delta = b^2 - 4ac$$

$$1 - 1 = -1$$

$$\Delta < 0 \quad \text{مطلوب}$$

$$\text{ب) } \frac{n^2 - 3n + 2}{n^2 + 2n + 2}$$

$$\Delta = b^2 - 4ac \rightarrow 2^2 - 4 \times 1 \times 2 = 4 - 8 = -4$$

$$n^2 + 2n + 2 > 0 \quad \text{مطلوب}$$

$$\Delta = b^2 - 4ac = 3^2 - 4 \times 1 \times 4 = 9 - 16 = -7 \quad n^2 + 3n + 4 > 0$$

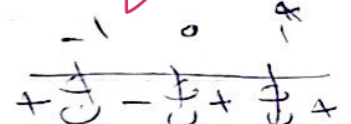
$$\frac{n^2 + 3n + 4}{n^2 + 2n + 2} > 0$$



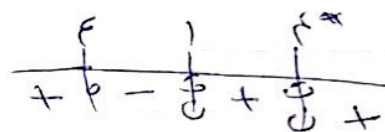
آهههه!

$$\text{الف) } \frac{n^2 - 1}{n^2 - 2} \geq 0 \rightarrow n(n^2 - 1) = n^3(n-1)(n+1)$$

$$(-\infty, -1) \cup (0, 1) \cup (1, +\infty)$$



$$\text{ب) } \sqrt{\frac{n^2 - 12}{n^2 - 2n + 4}} = \frac{(n-4)(n+4)}{(n-1)(n-4)}$$



$$(-\infty, -4] \cup (1, 4) \cup (4, +\infty)$$