

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

$\begin{array}{c} \star \\ 0 \\ -\phi \\ -\phi \\ \phi \\ + \end{array}$

$\rightarrow (2, \infty)$

سوال ۷:

$$\frac{(x^2-n-4)(x-1)^2}{(x^2+x+1)(2-x)^2} < 0 \Rightarrow \frac{(x-n-4)(x-1)^2}{(x^2+x+1)(2-x)^2}$$

$\begin{array}{c} \star \\ -2 \\ 0 \\ \phi \\ \phi \\ + \end{array}$

$\rightarrow [-2, 2) \cup [3, \infty) \cup \{1\}$

سوال ۸:

$$f(x) = \frac{3x^2-2x}{x^2+4} < 2 \Rightarrow \frac{3x^2-2x}{x^2+4} < 2 \Rightarrow \frac{3x^2-2x-2x^2-8}{x^2+4} < 0$$

سوال ۹:

$$\frac{x^2-2x-8}{x^2+4} < 0 \Rightarrow \frac{(x-4)(x+2)}{x^2+4} < 0 \Rightarrow \frac{-2 \quad \epsilon}{\phi \quad \phi \quad +} \Rightarrow (-2, 4) \Rightarrow 4 - (-2) = 6$$

$$-1 < \frac{3x^2-2x}{x+1} < 0$$

① $\frac{3x^2-2x}{x+1} < 0 \Rightarrow \frac{3x^2-2x}{x+1} < 0$

② $\frac{3x^2-2x}{x+1} < -1 \Rightarrow \frac{3x^2-2x}{x+1} + 1 < 0 \Rightarrow \frac{3x^2-2x+x+1}{x+1} < 0 \Rightarrow \frac{3x^2-x+1}{x+1} < 0$

$\Delta = 1 \Rightarrow x = \frac{-b \pm \sqrt{\Delta}}{2a} = \frac{1 \pm 1}{6} = \frac{2}{6} = \frac{1}{3}$

$\frac{1}{3} < \frac{1}{3} < \frac{1}{3}$

① \cap ② $\rightarrow (0, \frac{1}{3})$

$\rightarrow (-\infty, -1) \cup (0, \frac{1}{3})$

سوال ۹:

$$\frac{x^2-1}{x} < 2 \Rightarrow \frac{x^2-2x-1}{x} < 0 \Rightarrow \frac{(x-1)(x+1)}{x} < 0$$

$\begin{array}{c} -2 \\ 0 \\ \phi \\ \phi \\ \phi \\ + \end{array}$

$\rightarrow (-\infty, -1) \cup (0, 1]$

سوال ۱۰:

نایمن زحرا سفیری