

تقسیم توان

$13 \frac{1}{V \omega}$

$\frac{1}{x^2} \div \frac{x-1}{x+1}$

$(x-1)/(x+1) \rightarrow x^2 \cdot \frac{x-1}{x+1} \rightarrow a=2, b=3 \rightarrow a+b=5$

5

$x-1^n = x+1 \rightarrow 1^n n = -1 \rightarrow n = -\frac{1}{1}$

طریقه اول در جواب

13

~~$kx-1(x+m)-1 = x-1 \rightarrow x(k-2)+m-1 = x-1 \rightarrow m-1 = -1$~~

~~$\frac{m}{n} + k = \frac{1}{1} = 1 \rightarrow 1 + 2 = 3$~~

$x = -\frac{1}{2}x^2 + 2x + 4 \rightarrow \frac{1}{2}x^2 - 2x - 4 > 0 \rightarrow (x^2 - 4x - 8) > 0 \rightarrow (x-5)(x+1) > 0$

$5 - (-1) = 6$

نیز برعکس (-1, 5)

$\frac{-1}{-} \frac{5}{+}$

6

$x(x^2-1) - 2(x^2-1) \rightarrow (x^2-1)(x-2) = (x-1)(x+1)(x-2)$

$\frac{-1}{-} \frac{1}{+} \frac{2}{-}$

$(-\infty, -1) \cup (1, 2)$
نمی توان مقفی باشد

$f(2) = 2^2 - 2(2^2) - 2 + 2 = 1 - 12 - 2 + 2 = -11$

نقطه یابی 2

$a-1 < 0 \rightarrow a < 1$

$\Delta < 0 \rightarrow b^2 - 4ac \rightarrow (a-1)^2 - 4(a-1)(1) = a^2 + 1 - 2a - 4a + 4$

$\Delta < 0$
 $a < 0$

$a^2 - 4a + 5 < 0 \rightarrow (a-1)(a-5) < 0$

$\frac{1}{+} \frac{5}{-}$

ماتریس

$\frac{m(m(m^2+1))}{m(m^2+m)} = \frac{m^2(m^2+1)}{m^2(m+1)} \rightarrow m-2 > 0 \rightarrow m > 2$

~~$\frac{-1}{+} \frac{0}{+} \frac{1}{+} \frac{2}{+}$~~

~~$(-\infty, -1) \cup (1, 2) \cup (2, +\infty)$~~

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

~~$\frac{-2}{+} \frac{1}{+} \frac{2}{-} \frac{2}{-}$~~

$[-2, 1] \cup (2, 2]$

$\frac{-2}{+} \frac{1}{-} \frac{2}{-} \frac{2}{+}$

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

1, 2

$f(-2) = 1$

$(-2, 2)$

$\frac{-2}{+} \frac{2}{-}$

$$\begin{aligned}
 \text{(I)} &\rightarrow -1 < \frac{x(2x-2)}{x+1} < 1 \\
 \text{(II)} &\rightarrow \frac{x^2-2x}{x+1} < 0 \rightarrow \frac{x(2x-2)}{x+1} < 0 \\
 \text{(I)} \cup \text{(II)} &= (-\infty, \frac{1}{2}) \cup (1, \infty) \\
 \text{III} &= (0, \frac{2}{3}) \\
 \text{IV} &= (-\infty, -1) \cup (0, \frac{2}{3}) \\
 \text{V} &= (-\infty, -2] \cup (0, \infty)
 \end{aligned}$$

حل المسألة: $(k-2)x + m - 1$ عند $x=2$ عند $x=1$

$$f(k-2) + m - 1 = 0 \rightarrow k + m - 9 = 0$$

$k-2 < 0 \rightarrow k < 2$ $\frac{k}{\text{صحيح}} \rightarrow k=1$ فتریب x در این عبارت به دست می آید

$$k=1 \rightarrow k + m - 9 = 0 \rightarrow m = 8$$

$$\frac{m}{n} + k = \frac{8}{-1} + 1 = -7$$