

$y = x^2 - ax + b \rightarrow x^2 - (1+3)x + (3 \times 1) \rightarrow b = 3 \quad a = 4$

$a + b = 3 + 4 = 7$

$\begin{array}{r} 1 \quad 3 \\ +1 \quad -1 \\ \hline \end{array}$

ریشه‌های مساوی = ۳ و ۱

۲

$(k-2)x + m-1$ $(x-3n)^2$
ریشه مضاعف

$\begin{array}{r} x \quad - \quad 1 \quad 3 \\ p \quad + \quad + \quad - \\ \hline \end{array}$
مضاعف

$m = 0$

$k - n + m - 1 = 0$

$-n = \frac{1}{p} \rightarrow n = -\frac{1}{p}$

$k - 2 < 0 \rightarrow k = 1$

$\frac{m}{n} + k = \frac{0}{-1} + 1 = -1 + 1 = 0$

$-\frac{1}{p}x^2 + 2x + 6 > \frac{v}{p} \rightarrow -x + 2x + 5 > 0$

$\left. \begin{array}{l} x = -1 \\ x = 5 \end{array} \right\}$

$\begin{array}{r} -1 \quad 5 \\ -1 \quad +1 \\ \hline \end{array}$

$(a, b) \rightarrow (-1, 5) \rightarrow b - a = 5 - (-1) = 6$

$f(x) = (x-1)(x+1)(x-3) = 0 \rightarrow x = 1, -1, 3$

$\begin{array}{r} x^2 - 3x^2 - x + 3 \\ -x^3 - x^2 \\ \hline -2x^2 - x + 3 \\ -2x^2 + 2x \\ \hline -3x + 3 \\ -3x + 3 \\ \hline 0 \end{array}$

$\begin{array}{r} -1 \quad 1 \quad 3 \\ +1 \quad -1 \\ \hline \end{array}$
 $(1, 3) = (a, b)$

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

$\Delta < 0 \rightarrow a^2 - 2a + 1 - 4a + 4 = a^2 - 6a + 5 < 0$

$a = 1, 5$

$\begin{array}{r} 1 \quad 5 \\ +1 \quad -1 \\ \hline \end{array} \rightarrow a \in (1, 5)$

اشتراک = \emptyset

$$\frac{m^r(m^r+1)}{m-r} > 0 \quad \frac{0^+}{-|-|+} \quad m > r \rightarrow (r, \infty)$$

6

Ⓜ

$$\frac{(x^r - x - r)(x-1)^r}{(x^r + x + 1)(r-x)} \leq 0$$

$\Delta < 0$ $x=r$

$$\frac{-r \quad 1 \quad r \quad r}{+|-|-|+} \quad \frac{r \quad r}{+|-}$$

ζ_0 ζ_0

7

$$x \in [r, \infty) \cup [-r, r]$$

Ⓜ

$$\frac{r x^r - r x}{x^r + r} < r \rightarrow \frac{r x^r - r x - r x^r - r}{x^r + r} < 0 \rightarrow \frac{x^r - r x - r}{x^r + r} < 0$$

$$\frac{-r \quad r}{+|-|+} \quad x \in (-r, r) = (a, b) \quad b-a = r - (-r) = 2r$$

$\Delta < 0$ ζ_0

Ⓜ

$$\frac{r x^r - r x}{x+1} > -1 \rightarrow \frac{r x^r - r x + 1}{x+1} > 0$$

$$\frac{r x^r - r x}{x+1} < 0 \rightarrow \frac{x(x-r)}{x+1} < 0 \rightarrow \frac{-1 \quad r \quad r}{-|+|-|+} \rightarrow \Delta \in (-\infty, -1) \cup (0, \frac{r}{r-1})$$

$\Delta < 0$ $x = \frac{r}{r-1}$ $x = -1$

$x = -r/2$ $x = -1$

اشترای

Ⓜ

$$\frac{x^r - 10}{x} \leq r \rightarrow \frac{x^r - r x - 10}{x} \leq 0$$

$$\frac{-r \quad 0 \quad 10}{-|+|-|+}$$

ζ_0 ζ_0

$$x \in (-\infty, -r] \cup (0, 10]$$

10

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