

$$\begin{array}{c|c|c} & 1 & 3 \\ \hline + & 1 & - & 3 & + \end{array} \rightarrow r \times 1 = \frac{b}{1} \rightarrow b = 3$$

(۲)

$$\frac{a}{1} = r+1 = r = a \rightarrow a+b = r+r = 2a$$

$$r_n = -1 \rightarrow n = \frac{1}{r}$$

(۲)

~~...~~ $k = 2, m = 1$
 $n = r \rightarrow r k - 1 + n - 1 = 0$

~~...~~ $k + m = a$
 $\rightarrow \frac{a}{r} + 1 = -1$

$$n = -\frac{1}{r} \quad \begin{array}{c|c|c} & -2 & 6 \\ \hline - & 1 & + & 6 \end{array}$$

(۲)

$$-\frac{1}{r} n^2 + 2n + 6 > \frac{1}{r} \rightarrow -\frac{1}{r} n^2 + 2n + \frac{6}{r} > 0$$

$$\rightarrow n = -1, 6 \rightarrow \frac{-1}{-1} + \frac{6}{-1} = 5$$

$$n^3 - 3n^2 - n + 3 < 0$$

(۲)

$$(n-3)(n+1)(n-1) < 0$$

$$\begin{array}{c|c|c|c} & -1 & 1 & 3 \\ \hline - & 1 & + & 3 \\ \hline - & 1 & - & 3 \end{array} \quad n > 0 \rightarrow (1, 3) \rightarrow f(2) = -3$$

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

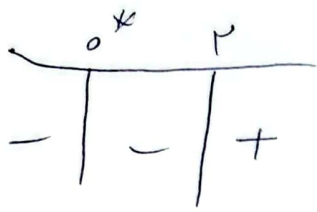
$$a^2 + 1 - 2a - 2a + 2 < 0$$

$$\rightarrow a^2 - 4a + 3 < 0$$

$$\begin{array}{c|c|c} & 1 & 3 \\ \hline + & 1 & - & 3 & + \end{array} \rightarrow (1, 3)$$

مجموع مقادیر a

(۲)



$$r < m$$

$$\frac{m(m(m^r + 1))}{m - r}$$

6

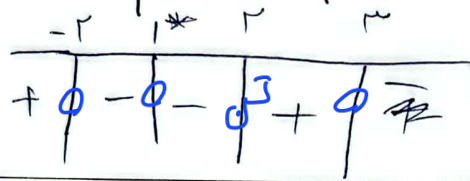


$$n = \frac{r-1}{2}$$

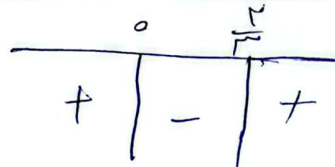
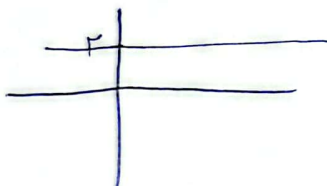
$$n^* = 1$$

$$n = r$$

7



$$[-r, r] \cup [r, +\infty)$$



8

$$\frac{r^n - rn}{n^r + r} < 0 \rightarrow r^n - rn < r^{n+1} \rightarrow n^r - rn - 1 < 0$$

$$E + E = S$$



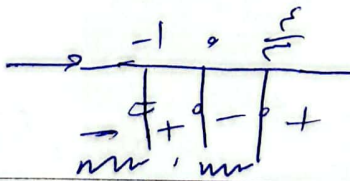
$$\frac{r^n - rn + n + 1}{n + 1} < 0$$

$$\frac{r^n - r^{n+1}}{n + 1} < 0$$



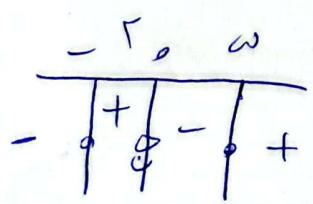
$$(-\infty, -1) \cup (0, \frac{r}{2})$$

$$\frac{r^n - rn}{n + 1} < 0$$



$$(-\infty, -1) \cup (0, \frac{r}{2})$$

$$\frac{r^n - 1}{n} = r < 0 \rightarrow \frac{r^n - r^{n-1}}{n} < 0$$



$$(-\infty, -r] \cup [0, \infty)$$