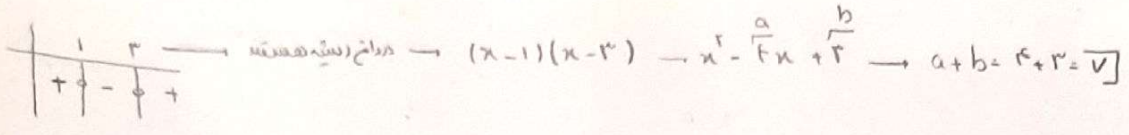


① $x^r - ax + b$

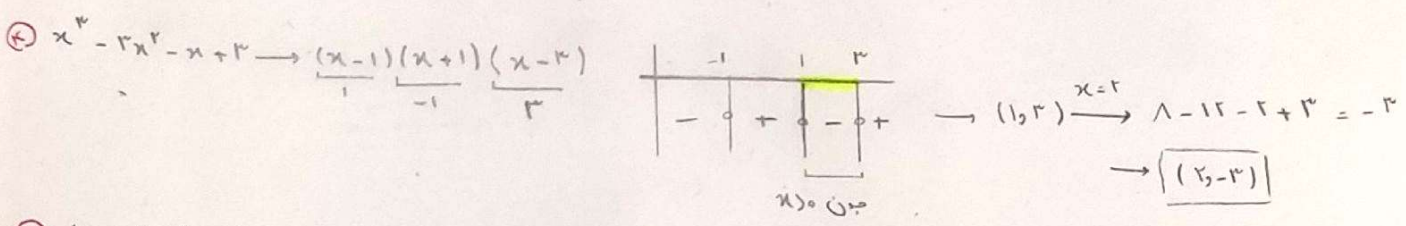


② $y = ((k-r)x + m - 1)(x - rn^r) \xrightarrow{x=r} r(k-r) + m - 1 \rightarrow k - 4 + m = *$

$k - r < 0 \rightarrow k < r \rightarrow$ $1 = k \rightarrow k - 4 + m = 0 \rightarrow m = 4 \rightarrow \frac{4}{r} + 1 = -1 + 1 = -1r$
 $(x - rn)^r \rightarrow x^r + 4n^r - 4nx \xrightarrow{x=r} 1 + 4n^r + 4n \rightarrow n = -\frac{1}{r}$

③ $y = -\frac{1}{r}x^r + rx + 4 > \frac{4}{r}$

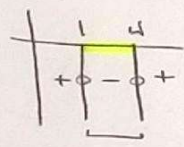
$-\frac{x^r}{r} + rx + 4 > \frac{4}{r} \xrightarrow{x=r} x^r - rx - 4 > 0 \rightarrow \frac{(x+1)(x-4)}{-1} \rightarrow (-1, 4) \rightsquigarrow 4+1 = 9$



⑤ $(a-1)x^r + (a-1)x + 1 \rightarrow$ $a < 0$
 $\Delta < 0$

⑥ $a - 1 < 0 \rightarrow a < 1$

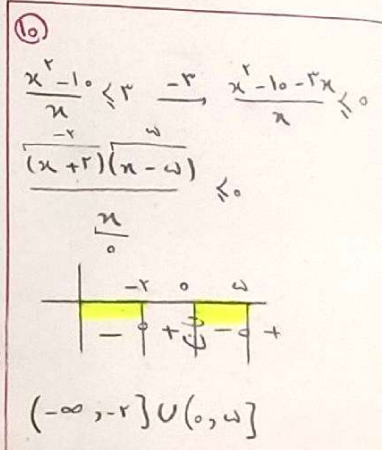
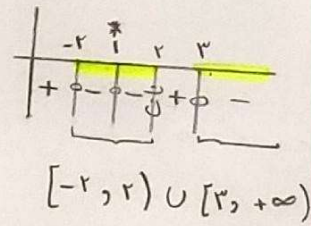
⑦ $(a-1)^r - [rx(a-1)] = a^r + 1 - ra - ra + r = a^r - 4a + 4 < 0$
 $(a-1)(a-4)$



⑧ \emptyset

⑨ $\frac{m(m^r+m)}{m-r} \rightarrow$ $m^r + m^r - m^r(m^r+1) > 0 \checkmark$
 $m - r > 0 \rightarrow m > r$

⑩ $\frac{(x^r - x - 4)(x-1)^r}{(x^r + x + 1)(r-x)^r} \rightarrow \frac{(x+r)(x-r)(x-1)^r}{(r-x)^r}$



⑫ $\frac{rx^r - rx}{x^r + r} < r \rightarrow rx^r - rx < rx^r + r$

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

⑬ $-1 < \frac{rx^r - rx}{x+1} + 1 < \frac{rx^r - rx + x + 1}{x+1} \rightarrow \frac{rx^r - rx + 1}{x+1} > 0$