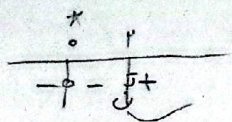




$$\frac{m(m^r+m)}{m-r} > 0$$



9

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

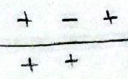
$(r, +\infty)$

$m=0$  \*  $m=r$

$m^r = -1 \text{ } \forall \text{ } \epsilon$

6

$$\frac{(n^r-n-9)(n-1)^r}{(n^r+n+1)(r-n)^r} < 0$$



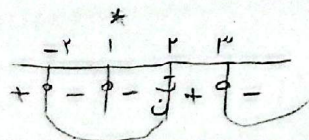
9

$$(n^r+n+1)(r-n)^r$$

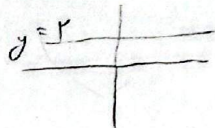
$$\frac{(n+r)(n-r)(n-1)^r}{(n^r+n+1)(r-n)^r} < 0 \quad [-r, r) \cup [r, +\infty)$$

7

$n = -r$  \*  $n = 1$  \*  
 $n = r$  \*  $n = r$

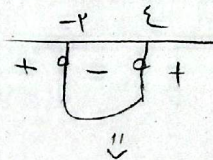


$$f(x) = \frac{rx^r - rx}{x^r + \epsilon}$$



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

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



8

$b-a =$

$r - (-r) = \underline{2r}$

$$\Delta < 0 \quad \frac{x^r - rx - \epsilon}{x^r + \epsilon} < 0$$

$(-r, r)$   
 $(a, b)$

$$\frac{(x-r)(x+r)}{x^r + \epsilon} < 0$$

$x = r$  \*  $x = -r$

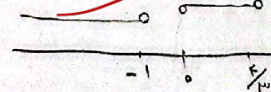
$$-1 < \frac{rx^r - \epsilon x}{x+1} < 0 \quad \Delta = 9 - \epsilon(r)$$

$rx^r - rx + 1$

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

$$\frac{-1}{x+1} < 0 \quad (-1, +\infty)$$

9



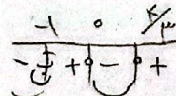
9

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

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

$x=0$  \*  $rx=r$  \*  $x = \frac{\epsilon}{r}$

$x = -1$



النسبة =  $(0, \frac{\epsilon}{r})$

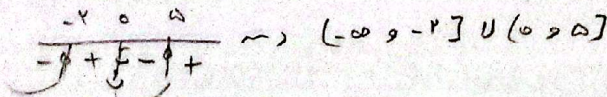
$$\frac{x^r - 10}{x} < r$$

$$(x-0)(x+r)$$

$$\frac{x^r - rx - 10}{x} < 0$$

9

$x = 0$   
 $x = -r$   
 $x = 0$



10