

$$m^p - am + b < 0$$

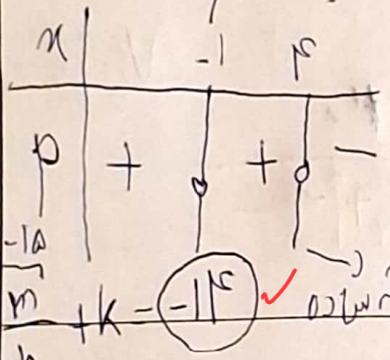
ارائه های عبارتند  $\Rightarrow$   $1 < m < p$

$a = p$   $a+b = \checkmark$   
 $b = m$

$$(m-1)(m-p) = m^p - am + b = m^p - pm + m^p$$

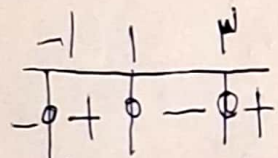
موافق علامت ضرب است پس ضرب است

$$y = ((k-p)m + m - 1)(m - pm)$$



$\Rightarrow m - pm = 0 \Rightarrow -1 - pm = 0$   
 $n = -\frac{1}{p}$   
 $k-p < 0 \Rightarrow k < p$   $k \in \mathbb{N} \Rightarrow k=1$

$$f(m) = m^p - pm^p - m + p = m^p(m-p) - (m-p) = (m^p-1)(m-p)$$

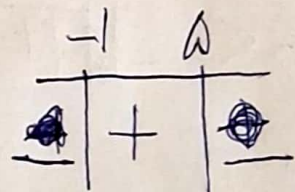


$(-\infty, -1) \cup (1, p) \cap (0, +\infty) = (1, p) = (a, b)$

$$\frac{p - p(p)^p}{-p} - p + p = -p$$

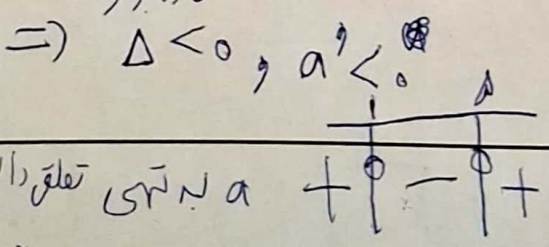
نقطه میانی  $m = p$   
 علامت  $(-1, a) \checkmark$   $b - a = p - (-1) = p+1$

$$-\frac{1}{p} m^p + pm + 4 > \frac{1}{p}$$



$$(a-1)m^p + (a+1)m + 1 < 0$$

$m-1 < 0 \Rightarrow a < 1$   
 $(a-1)^p - pa + 1 < 0$   
 $a^p - pa + 1 < 0$



دالة التزايد  $\Delta < 0$  بدلالة  $\Delta$   
 + معواله

$$\frac{m^p(m^w+m)}{m-p} > 0 \Rightarrow \frac{m^p(m^p+1)}{m-p} > 0$$

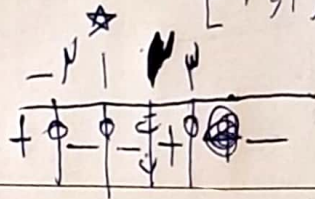
$m > p$   
 $(p, +\infty)$  ✓

(2)

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$$\frac{(m^p - m - 1)(m-1)^p}{(m^p + m + 1)(p-m)^p} \leq 0 \Rightarrow \frac{(m-p)(m+p)(m-1)^p}{(p-m)^p}$$

$\Delta < 0$  و  $\Delta > 0$   
 + معواله  
 دالة التزايد



$(-\infty, -1) \cup (p, +\infty)$  ✓

(2)

$$f(m) = \frac{m^p - pm}{m^p + p} < p \Rightarrow \frac{m^p - pm}{m^p + p} - p < 0 \Rightarrow \frac{m^p - pm - pm^p - p}{m^p + p} < 0$$

$$\Rightarrow \frac{m^p - pm - p}{(m-p)(m+p)} < 0$$

$(a, b) = (-1, p)$  ✓

(2)

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$$\frac{m^p - pm}{m+1} < 0$$

$$\frac{m^p - pm}{m+1} > -1 \Rightarrow \frac{m^p - pm + m + 1}{m+1} > 0$$

$\Delta < 0$  و  $\Delta > 0$   
 + معواله  
 دالة التزايد

$$\frac{m(m^p - p)}{m+1} < 0$$

$$\frac{1}{m+1} > 0$$

$$((-\infty, -1) \cup (0, \frac{p}{m})) \cap (-1, +\infty) = (0, \frac{p}{m}) \cap (-1, +\infty)$$

(2)

$$\frac{m^p - 10}{m} \leq p \Rightarrow \frac{m^p - pm - 10}{m} \leq 0 \Rightarrow \frac{(m-p)(m+p)}{m} \leq 0$$

$$\Rightarrow \frac{m^p - 10}{m} - p \leq 0$$

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$(-\infty, -1] \cup (0, p)$  ✓