

$$1) \begin{array}{l} 1 \quad r \\ + \phi - \phi + \end{array} \rightarrow 1 - a + b = \dots \quad -r + ra - rb = \dots$$

$$\rightarrow 9 - ra + b = \dots \quad 9 - ra + b = \dots$$

$$9 - rb = \dots \quad -rb = -4$$

$$a + b = r \quad a = r \quad b = 4$$

$$2) ((k-r) - 1 + m - 1)(-1 - rn)^r \rightarrow ((k-r) - 1 + m - 1)(-1 - rn)^r = \dots$$

$$rn = -1 \quad n = -\frac{1}{r} \quad m = 9 - rk$$

$$y = ((k-r)x + (9 - rk) - 1)(m + \frac{1}{r})^r \rightarrow -1 - rn = \dots$$

$$y = ((k-r)m + 1 - rk)(m + \frac{1}{r})^r \rightarrow n = \frac{1}{r}$$

$$((k-r)x + 1 - rk) = 1 - rk \rightarrow -k + 1 + m = \dots$$

$$rk + m - 9 = \dots$$

$$k > r \rightarrow k \geq 1$$

$$k = 1 \rightarrow m = 9 - r = 0 \quad n = -\frac{1}{r} \rightarrow \frac{m}{n} + rk = \frac{0}{-1/r} + 1 = -1k$$

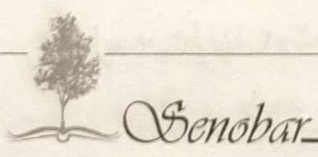
$$3) -\frac{1}{r}m^r + rm + 4 > \frac{v}{r} \rightarrow -m^r + rm + 4r > v$$

$$m^r - rm - 4r < 0$$

$$\frac{-1 \quad a}{+ \phi - r +}$$

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

$$b - a = 4$$



4) $x(m^r - m - 1) + r$

$\left. \begin{array}{l} \downarrow 1 - r - 1 + r = 0 \\ \uparrow r \quad r - r - r + r = 0 \end{array} \right\} \Rightarrow f(r) = 1 - 1r - r + r = -r < 0$

$-1 \Rightarrow -1 - r + 1 + r = 0$

$(a, b) = (1, r) \xrightarrow{G.C.D} \frac{1+r}{1} = r$

$f(r) = -r \quad f\left(\frac{a+b}{c}\right) = -r$

a) $a - 1 < 0 \quad a < 1$

$(a - 1)^r - \epsilon(a - 1)(1) \rightarrow (a - 1)(a - 1) < 0$

$a < 1$

$1 < a < \infty$

$1 < a < \infty \Rightarrow \emptyset$

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

$m - r$
 $- m < r$
 $+ m > r$
 $\cup \quad m = r$

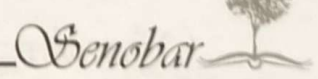
v) $\frac{(m^r - m - 1)(m - 1)^r}{(m^r + m + 1)(r - m)^r}$

$x = 1 \Rightarrow$

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

$\Delta = 1 - f = -r < 0$

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



1) $f(m) = \frac{r n^r - r m}{n^r + \epsilon} \quad y = r$

$\frac{r n^r - r m}{n^r + \epsilon} < r \quad r n^r - r m < r(n^r + \epsilon) \rightarrow r n^r - r m < r n^r + r \epsilon$

$r n^r - r m - r \epsilon < 0$

$(n - \epsilon)(n + \epsilon) < 0$

$(-r, \epsilon) \rightarrow b - a = \epsilon + r = \epsilon \quad -r < m < \epsilon$

2) $-1 < \frac{r n^r - \epsilon m}{n+1} < 0 \quad \frac{n(r n - \epsilon)}{n+1} \quad m = 0 / n = \epsilon/r$

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

$\frac{r n^r - \epsilon m}{n+1} > -1 \Rightarrow \frac{r n^r - \epsilon m}{n+1} + 1 > 0 \quad \frac{r n^r - \epsilon m + n + 1}{n+1} > 0$

$\Delta = 4 - 1r = -r \quad \Delta < 0 \Rightarrow (0, \frac{\epsilon}{r})$

$\Rightarrow n+1 > 0 \Rightarrow n > -1 \quad (-1, +\infty)$

$\frac{n^r - 1}{n} < r \quad \frac{n^r - 1 - r m}{n} < 0 \quad \frac{(n-a)(n+r)}{n} < 0$

$n - a = 0 \quad n = a \quad -r < 0 \quad a$
 $n + r = 0 \quad n = -r \quad 0 < m < a$
 $m = 0 \quad (-\infty, -r] \cup (0, a) \quad (a, -r)$

$\rightarrow (-\infty, -r] \cup (0, a)$

