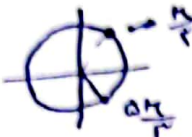
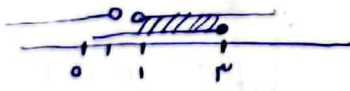


$a - 2 = 0$ $a = 2$	$2a + b \rightarrow a = 2$ $4 + b = 0$ $b = -4$	1
$x^2 + 2x + 1 - m^2 \geq 0$ $x^2 + 2x + 1 + 1 - m^2 \geq 0$ $(x+1)^2 + 1 - m^2 \geq 0$ $x+1 = 0$ $x = -1$	$1 - m^2 \geq 0$ $m^2 \leq 1 \rightarrow -1 \leq m \leq 1$ $1 - m^2 \geq 0 \rightarrow m^2 \leq 1$	2
$f - x^2 \geq 0$ $x^2 \leq f$ $2 \leq x \leq 2$	$[x] + [-x] \neq 1 \neq 0$ $[x] + [-x] \neq -1$ $x \in \mathbb{Z}$	3
$\frac{(x-1)(x+1)x^2(x-3)}{x^2-1}$ $x^2 = 1$ $x = 1$ $x = -1$ $x = 0$ $x = 3$ $x = 1$	$x^3 + 3x^2 \geq 0$ $x^2(x+3) \geq 0$ $x = 0$ $x = -3$ $D_f = (-\infty, -1] \cup [3, +\infty)$ $D_f = [-3, +\infty)$	4
$f - x+2 \geq 0$ $ x-2 \leq f$ $-f \leq x-2 \leq f$ $2-f \leq x \leq 2+f$ $2 \leq x \leq 4$	$ x-2 - 3 \geq 0$ $ x-2 \geq 3 \rightarrow x-2 \geq 3$ $x-2 \leq -3$ $x \geq 5$ $x \leq -1$	5

$r = x - \omega - 1 \geq 0$ $r = x - \omega \geq 1$ $ x - \omega \leq r$ $-r \leq x - \omega \leq r$ $r \leq x \leq r + \omega$ $D_f = [r, r + \omega]$	$1 - x x \geq 0$ $x x \leq 1 \rightarrow \begin{matrix} x=1 \checkmark \\ x=r \checkmark \\ x=0 \checkmark \\ x=-1 \checkmark \end{matrix}$ $D_f = (-\infty, 1]$	8
$r \cos \alpha \neq 1$ $r \cos \alpha \neq 1$ $\cos \alpha \neq \frac{1}{r}$  $D_f = \mathbb{R} - \left\{ r \cos \alpha \pm \frac{r}{\cos \alpha} \right\}$	$\cos \alpha \neq 0$  $D_f = \mathbb{R} - \left\{ r \cos \alpha \pm \frac{r}{\cos \alpha} \right\}$	9
$ rx+1 - x+r \geq 0 \rightarrow rx+1 \geq x+r $ $(rx+1)^2 \geq (x+r)^2 \rightarrow (rx+1)^2 - (x+r)^2 \geq 0$ $((rx+1) + (x+r))((rx+1) - (x+r)) \geq 0$ $\underbrace{rx+1+x+r}_{rx+r+1} \underbrace{rx+1-x-r}_{rx-1-r} \geq 0$ $rx+r+1=0 \quad rx-1-r=0$ $x = -\frac{r+1}{r} \quad x = \frac{r-1}{r}$ $D_f = \mathbb{R} - \left\{ -\frac{r+1}{r}, \frac{r-1}{r} \right\}$	$ rx+1 - x+r \neq 0$ $ rx+1 = x+r $ $(rx+1)^2 = (x+r)^2$ $(rx+1)^2 - (x+r)^2 = 0$ $((rx+1) - (x+r))((rx+1) + (x+r)) = 0$ $(x-r)(rx+1) = 0 \quad x=r \quad x = -\frac{1}{r}$ $D_f = \mathbb{R} - \left\{ -\frac{1}{r}, r \right\}$	10
$rx-1 > 0$ $rx > 1$ $x > \frac{1}{r}$ $\log_{\Delta} \frac{rx-1}{r} > 0$ $rx-1 > 1$ $rx > 2$ $x > \frac{2}{r}$ 	$\log_{\Delta} \frac{rx-1}{r} \geq 0$ $\log_{\Delta} \frac{rx-1}{r} \leq 1$ $rx-1 \leq r$ $rx \leq r+1$ $x \leq \frac{r+1}{r}$ $D_f = (1, r]$	11
$\log \left(\frac{x-1}{x+1} \right) \geq 0 \rightarrow \frac{x-1}{x+1} \geq 1$ $\frac{x-1}{x+1} - 1 \geq 0 \rightarrow \frac{x-1-x-1}{x+1} \geq 0$ $\frac{-2}{x+1} \geq 0$ $x+1 < 0$ $x < -1$ $D_f = (-\infty, -1)$	$r \cos \alpha + 1 > 0$ $r \cos \alpha > -1$ $\cos \alpha > -\frac{1}{r}$  $D_f = [0, r] - \left[\frac{r}{\cos \alpha}, \frac{r}{\cos \alpha} \right]$	12