

$$\text{جاء) } \frac{|m|+1}{|m|-r} \rightarrow y(|m|-ry = |m|+1 \rightarrow |m|(y-1) = 1+ry \rightarrow |m| = \frac{1+ry}{y-1} \geq \dots \rightarrow R = (-\infty, -\frac{1}{y}) \cup (\frac{1}{y}, \infty)$$

$$\text{جاء) } y = \frac{a^r+1}{|m|} \begin{cases} a > 0, \quad a + \frac{1}{a} \rightarrow [r_0 + \infty) \\ a < 0, \quad \frac{a^r+1}{-a} \rightarrow a - \frac{1}{a} \sim [r_0 + \infty) \end{cases} \quad R \rightarrow [r_0 + \infty)$$

ملاحظة

$$y = \frac{a^r+m-r}{a+r} \rightarrow y(a+r)y = a^r+m-r \rightarrow a^r + a(r-y) - r - ry = \dots$$

$$a_1, a_2 = \frac{-r-y \pm \sqrt{(r-y)^2 - 4(-r-y)}}{r} \sim \varepsilon - y^r - \varepsilon y + 1 + ry \rightarrow y^r + 1 + ry.$$

$$R = (-\infty, -\frac{1}{y}] \cup [r_0 + \infty)$$

$$f(m) = \frac{a^r - a + \frac{1}{\varepsilon}}{a^r - a + 1} \rightarrow \frac{(a - \frac{1}{r})^r}{a^r - a + 1} \rightarrow y(a^r - a + 1) = a^r - a + \frac{1}{\varepsilon} \rightarrow (y-1)a^r - (y-1)a + (y - \frac{1}{\varepsilon}) =$$

$$0 \geq \dots \rightarrow [-(y-1)]^r \leq \varepsilon(y-1)(y - \frac{1}{\varepsilon}) \rightarrow (y-1)(-ry) \geq \dots \rightarrow ry(y-1) \geq 0 \rightarrow y = 0 \text{ (ممنوع)} \rightarrow R_f = [0, 1)$$

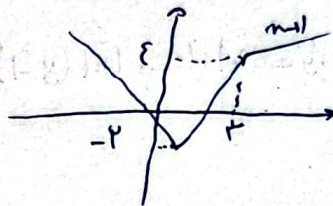
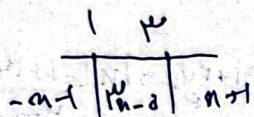
$$\text{جاء) } y = \sqrt{-a^r + \varepsilon m - 1} \quad \text{أحد } \mu^r \quad D = [0, \sqrt{\mu}] \quad (E)$$

$$\text{جاء) } y = \sqrt{1 + m} \quad \left| \begin{matrix} r \\ -1 \end{matrix} \right| \rightarrow [-r_0 + \infty)$$

2) $y = \log(a^x a_{-1}(n))$ $R = (-\infty, +\infty)$

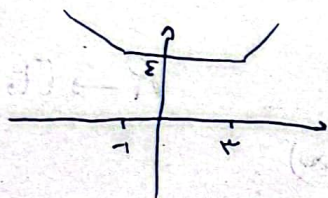
3) $y = \log_p \left(\frac{a+1}{n} \right) \rightarrow a + \frac{1}{n} \xrightarrow{n \rightarrow \infty} [1, +\infty) \Rightarrow D = [1, +\infty)$

4) $y = |x-1| - |x-3|$



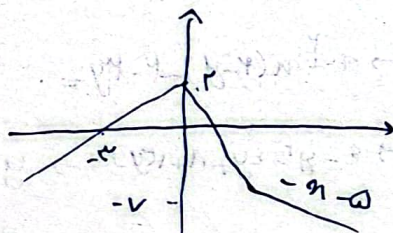
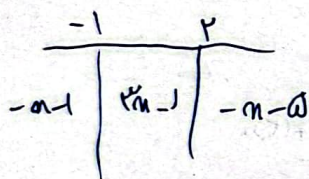
$D_f = (-\infty, +\infty)$

5) $y = |x-3| + |x+1|$



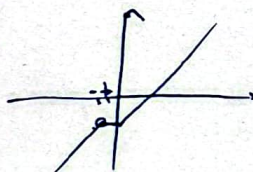
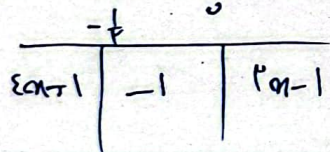
$D_f = (-\infty, +\infty)$

6) $y = |x-1| - |x+1| - 1$



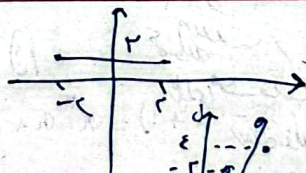
$D = (-\infty, 1]$

7) $y = |x+1| + |x|$



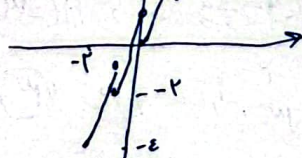
$D = \mathbb{R}$

8) $[a] + [b-a]$ $\begin{cases} -1 \leq a < 0 \rightarrow 1 \\ 0 \leq a < 1 \rightarrow 1 \\ 1 \leq a < 2 \rightarrow 1 \end{cases}$



$D_f = \{1\}$

9) $[a] - [a]$ $\begin{cases} -1 \leq a < 1 \rightarrow x_{m+1} \\ -1 \leq a < 0 \rightarrow x_{m+1} \\ 1 \leq a < 2 \rightarrow x_m \\ 2 \rightarrow x_{m-1} = a \end{cases}$



$D = [-1, 1]$

10) $\begin{cases} 1 \rightarrow 1 \\ -1 \rightarrow 1 \\ \frac{1}{2} \rightarrow 1, 0, 5 \end{cases} D = [1, 3]$

11) $\begin{cases} 0 \rightarrow 1 \\ 1 \rightarrow 1 \\ \frac{1}{2} \rightarrow 1, 1/4 \end{cases} \rightarrow [1, 3]$