

نام خانوادگی: فاطمه خاوری کلاس: پارس بازهم دفتر: سوم تکلیف: 4

if $a = 2$ $\xrightarrow[\text{باری بازاری}]{a=2}$ $2m + b \geq 0 \rightarrow 4 + b \geq 0$
 $\boxed{b = -4}$ (1)

$\Delta \leq 0 \rightarrow 4 - 4(2 - m^2) \leq 0$
 $4 - 8 + 4m^2 \leq 0 \rightarrow 4(m^2 - 1) \leq 0$ $\frac{-1}{+} \frac{+1}{-}$
 $-1 \leq m \leq 1 \rightarrow 1 - (-1) = 2$ (2)

$f(m) = \frac{\sqrt{4 - m^2}}{[m] + [-m] + 1} \rightarrow 4 - m^2 \geq 0 \rightarrow (2 - m)(2 + m) \geq 0$ $\frac{-2}{-} \frac{2}{+}$ (3)
 if $m \in \mathbb{Z} \rightarrow [m] + [-m] = 0 \rightarrow \frac{\sqrt{4 - m^2}}{1}$
 if $m \notin \mathbb{Z} \rightarrow [m] + [-m] = -1 \rightarrow \frac{\sqrt{4 - m^2}}{0} \rightarrow \infty$
 $\rightarrow$ $\lim_{m \rightarrow \infty} f(m) = \infty$ $\therefore \{-2, -1, 0, 1, 2\}$

(الف) $y = \sqrt{x^3 + 3x^2} \rightarrow x^2(x + 3) \geq 0$ $\frac{-3}{-} \frac{0}{+}$ (4)
 $\boxed{Df = [-3, +\infty)}$

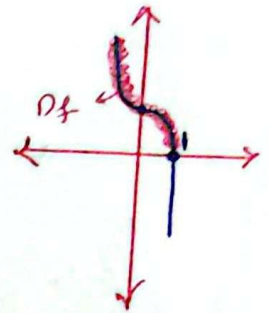
(ب) $y = \sqrt{\frac{(x^2 - 1)(x^3 - 3x^2)}{x^3 - 1}}$ $\frac{x^2(x - 3)}{x^2(x - 1)}$
 $\frac{(x^2 - 1)(x^3 - 3x^2)}{x^3 - 1} \geq 0$ $\rightarrow \frac{-1}{+} \frac{0}{-} \frac{1}{-} \frac{3}{+}$
 $\boxed{Df = (-\infty, -1] \cup \{0\} \cup [3, +\infty)}$

(الف) $y = \sqrt{|x - 2| - 3} \rightarrow |x - 2| - 3 \geq 0$ (5)
 $|x - 2| \geq 3 \rightarrow x - 2 \geq 3 \rightarrow x \geq 5$
 $x - 2 \leq -3 \rightarrow x \leq -1$
 $\boxed{Df = (-\infty, -1] \cup [5, +\infty)}$

(ب) $y = \sqrt{4 - |2 - m|} \rightarrow 4 - |2 - m| \geq 0$
 $|2 - m| \leq 4 \rightarrow -4 \leq 2 - m \leq 4$
 $-4 \leq 2 - m \leq 4$
 $+4 \geq -m \geq -2$
 $\boxed{Df = [-2, 4]}$

الف) $y = \sqrt{1 - x|x|} \rightarrow 1 - x|x| \geq 0 \rightarrow x|x| \leq 1$ (4)

$x \geq 0 \rightarrow x^2 \leq 1 \rightarrow -1 \leq x \leq 1 \xrightarrow{x \geq 0} 0 \leq x \leq 1$
 $x \leq 0 \rightarrow 1 + x^2 \geq 0 \rightarrow +\infty, \emptyset$



$D_f = (-\infty, 1]$

ب) $\frac{1}{\sqrt{3 - |x-2|} - 1}$

$\rightarrow 3 - |x-2| > 0 \rightarrow |x-2| < 3 \rightarrow -3 < x-2 < 3$
 $\boxed{2 < x < 8}$

$(\sqrt{3 - |x-2|})^2 \neq 1 \rightarrow 3 - |x-2| \neq 1$
 $|x-2| \neq 2 \rightarrow x-2 \neq 2 \rightarrow x \neq 4$
 $x-2 \neq -2 \rightarrow x \neq 0$
 $D_f = [2, 8] - \{0, 4\}$

الف) $\frac{\sin^2 x - 1}{\cos x} \rightarrow \cos x \neq 0 \rightarrow D_f = \mathbb{R} - \{k\pi + \frac{\pi}{2}\}$ (5)

ب) $\frac{\cos x}{2\cos x - 1} \rightarrow \cos x \neq \frac{1}{2} \rightarrow D_f = \mathbb{R} - \{2k\pi + \frac{\pi}{3}, 2k\pi + \frac{5\pi}{3}\}$

الف) $y = \frac{x+3}{|2x+1| - |x+3|} \rightarrow (|2x+1|)^2 \neq (|x+3|)^2$ (6)
 $4x^2 + 4x + 1 \neq x^2 + 6x + 9$
 $3x^2 - 2x - 8 \neq 0 \rightarrow (x-4)(x+\frac{4}{3}) \neq 0$
 $x \neq 4$
 $x \neq -\frac{4}{3}$
 $D_f = \mathbb{R} - \{4, -\frac{4}{3}\}$

ب) $\sqrt{|2x+1| - |x+3|} \rightarrow |2x+1| - |x+3| \geq 0 \rightarrow (|2x+1|)^2 \geq (|x+3|)^2$
 $4x^2 + 4x + 1 \geq x^2 + 6x + 9 \rightarrow 3x^2 - 2x - 8 \geq 0$
 $D_f = (-\infty, -\frac{4}{3}] \cup [2, +\infty)$

4: تکلیف : بازدهم دسترس : کلاس : فاطمه زهرا طالب زاده : امیر دینم خاوری

(9)

$$f(m) = \sqrt{\log_{\frac{1}{r}} \log_a^{r_{m-1}}} \rightarrow \log_{\frac{1}{r}} \log_a^{r_{m-1}} \geq 0 \rightarrow r_{m-1} > 0$$

$$\begin{aligned} r_m &> \frac{1}{r} \\ \left| m > \frac{1}{r} \right| & \text{ I} \end{aligned}$$

$$\log_a^{r_{m-1}} > 0 \rightarrow r_{m-1} > a^0 \rightarrow r_m > r$$

$$\left| m > 1 \right| \text{ II}$$

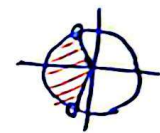
$$\log_{\frac{1}{r}} \log_a^{r_{m-1}} \leq 0 \rightarrow \log_a^{r_{m-1}} \leq 1 \rightarrow r_{m-1} \leq a$$

س. ۰، ۱، ۲، ۳، ۴، ۵، ۶، ۷، ۸، ۹
عوضی می باشد

$$\begin{aligned} r_m &\leq r \\ \left| m \leq r \right| & \text{ III} \end{aligned}$$

$$\text{I} \cap \text{II} \cap \text{III} \rightarrow \boxed{D_f = (1, r]}$$

الف) $y = \log^{r \cos m + 1}$ $\rightarrow r \cos m + 1 > 0 \rightarrow \cos m > -\frac{1}{r}$



(10)

$$\boxed{D_f = \left(2k\pi + \frac{r\pi}{r}, 2k\pi + \frac{r\pi}{r} \right)}$$

$$b) y = \sqrt{\log_{\frac{1}{r}} \frac{n-1}{n+1}} \rightarrow \log_{\frac{1}{r}} \frac{n-1}{n+1} \geq 0 \rightarrow \frac{n-1}{n+1} \geq 1$$

$$\frac{n-1 - n-1}{n+1} \geq 0 \rightarrow \frac{-2}{n+1} \geq 0 \rightarrow \frac{-1}{+\infty -}$$

$$\frac{n-1}{n+1} \geq 0 \rightarrow \frac{-1}{+\infty -} \rightarrow \boxed{D_f = (-\infty, -1)}$$