

نام و نام خانوادگی: پاسخنامه تشریحی تکلیف شماره ۴ کلاس دوم ب

الف) $y = \sqrt{\frac{m^2 - 6m}{m^2 - m}} = \sqrt{\frac{m(m-6)}{m(m-1)(m-1)}} = \frac{1}{\sqrt{m-1}} + \frac{1}{\sqrt{m-6}} + \frac{1}{\sqrt{m-1}}$
 $DF = (-1, 0) \cup (0, 1) \cup [6, +\infty)$

ب) $y = \sqrt{\frac{m(m-1)(m+1)}{m(m-1)(m+1)}} \rightarrow \frac{1}{\sqrt{m-1}} + \frac{1}{\sqrt{m+1}} + \frac{1}{\sqrt{m-1}}$ $DF = \mathbb{R} - \{0, 1, -1\}$

الف) $y = \frac{m+1}{\sqrt{m+|m|}} \rightarrow m+|m| > 0 \rightarrow DF = (0, +\infty)$
 $\rightarrow m > 0$

ب) $\frac{1}{\sqrt{m|m|}} \rightarrow m|m| > 0 \rightarrow m > 0 \rightarrow DF = (0, +\infty)$

الف) $\sqrt{2-[n]} \geq 0 \rightarrow [n] \leq 2 \rightarrow n \in \mathbb{Z} \rightarrow DF = (-\infty, 3)$

ب) $\frac{1}{\sqrt{2-[n]}}$ $\sqrt{2-[n]} \geq 0 \rightarrow [n] < 2$
 $DF = (-\infty, 2)$

الف) $\sqrt{[m-\frac{1}{n}]} + \sqrt{[m+\frac{1}{n}]} \rightarrow [m+\frac{1}{n}-1] + [m+\frac{1}{n}] \rightarrow [m+\frac{1}{n}]-1 + [m+\frac{1}{n}] \geq 0 \rightarrow$

$2[m+\frac{1}{n}] \geq 1 \rightarrow [m+\frac{1}{n}] \geq \frac{1}{2} \rightarrow m+\frac{1}{n} \geq 1 \rightarrow m \geq \frac{1}{n} \rightarrow DF = [\frac{1}{n}, +\infty)$

ب) $[m-\frac{1}{n}] + [-(m-\frac{1}{n})] \xrightarrow{a \in \mathbb{Z}} [a] + [-a] = 0 \rightarrow m-\frac{1}{n} \in \mathbb{Z}$
 $\xrightarrow{a \notin \mathbb{Z}} [a] + [-a] = -1 \rightarrow DF = \{m | m \in \mathbb{K} \text{ and } \frac{1}{n} \in \mathbb{Z}\}$

الف) $\sin m \neq 1 \rightarrow m \neq 2k\pi + \frac{\pi}{2} \rightarrow DF = \mathbb{R} - \{2k\pi + \frac{\pi}{2}\}$
 $\oplus$

ب) $|\sin m| \neq 1 \rightarrow \sin m \neq \pm 1 \rightarrow m \neq 2k\pi + \frac{\pi}{2}, 2k\pi + \frac{3\pi}{2}$
 $DF = \mathbb{R} - \{2k\pi + \frac{\pi}{2}, 2k\pi + \frac{3\pi}{2}\} \oplus$

الف) $\sin m - 1 \geq 0 \rightarrow \sin m \geq \frac{1}{2} \rightarrow m \in [2k\pi + \frac{\pi}{6}, 2k\pi + \frac{5\pi}{6}]$ $Df = [2k\pi + \frac{\pi}{6}, 2k\pi + \frac{5\pi}{6}]$ ب) $\cos m \geq 1 \rightarrow \cos m = 1 \rightarrow m = 2k\pi \rightarrow Df = \{2k\pi\}$	6
الف) $m - r > -1 \rightarrow m > r \rightarrow m > r$ $m - r < 1 \rightarrow m < r \rightarrow -r < m < r$ } $(-r, -1) \cup (1, r)$	7
الف) $m + r + 1 > -1 \rightarrow (m+1)/(m+1) > 0 \rightarrow m > -r$ $m + r + 1 < 1 \rightarrow m(r+m) < 0 \rightarrow -r < m < 0$ } $Df = (-r, 0)$	8
الف) $m - r > 0 \rightarrow m > r$ و $k \cdot \log_r(m-r) \geq 0 \rightarrow \log_r(m-r) \leq r$ $\log_r = r \rightarrow m \leq 11$ (1, 11] ب) $m(m-1)(m+1) > 0 \rightarrow m \in [-1, 0) \cup (1, +\infty)$	8
الف) $\varepsilon^{m+1} \neq 0 \rightarrow Df = \mathbb{R}$ ب) $\varepsilon^m - 1 \neq 0 \rightarrow m \neq 0 \rightarrow Df = \mathbb{R} - \{0\}$ 2) $\varepsilon^m - r \neq 0 \rightarrow m \neq \frac{1}{r} \rightarrow Df = \mathbb{R} - \{\frac{1}{r}\}$ 3) $\varepsilon^m \neq r \rightarrow m \neq \log_r r \rightarrow Df = \mathbb{R} - \{\log_r r\}$	9
الف) $f_{m+1} \in W \quad m = \frac{w-1}{r} \rightarrow Df = \{m \mid m = \frac{k-1}{r}, k \in W\}$ ب) $\frac{r_m - r}{r_m - 0} \in W \rightarrow$ $\frac{r_m - r}{r_m - 0} \in W$ $m = -\frac{-\delta k + r}{r_k - r} \rightarrow \frac{r - \delta k}{r - r_k} \quad Df = \{m \mid m = \frac{\delta k - r}{r_k - r}, k \in W\}$	10