

نام و نام خانوادگی الناصحین محمد پاسخنامه تشریحی تکلیف شماره کلاس یازدهم دبیرستان B

الف) $\begin{array}{r l} \mu x^3 + \mu x^2 - \lambda x + \mu & x-1 \\ \hline -\mu x^3 + \mu x^2 & \mu x^2 + \omega x - \mu \\ \hline \omega x^2 - \lambda x + \mu & \mu x^2 + \omega x - \mu \\ \hline -\omega x^2 + \omega x & \mu x^2 + \omega x - \mu \\ \hline -\mu x + \mu & \mu x^2 + \omega x - \mu \\ \hline \mu x - \mu & \mu x^2 + \omega x - \mu \end{array}$ $D_f = \mathbb{R} - \left\{1, \frac{1}{\mu}, -\mu\right\}$	ب) $\begin{array}{r l} \mu x^3 + 9\mu x^2 + 10\mu x + \mu & x+1 \\ \hline -\mu x^3 - \mu x^2 & \mu x^2 + 7\mu x + \mu \\ \hline 7\mu x^2 + 10\mu x + \mu & \mu x^2 + 7\mu x + \mu \\ \hline -7\mu x^2 - 7\mu x & \mu x^2 + 7\mu x + \mu \\ \hline \mu x + \mu & \mu x^2 + 7\mu x + \mu \\ \hline -\mu x - \mu & \mu x^2 + 7\mu x + \mu \end{array}$ $D_f = \mathbb{R} - \left\{-1, -\mu, -\frac{1}{\mu}\right\}$	۱
الف) $\begin{array}{r l} x^3 - \mu x^2 + \mu x - 1 & x-1 \\ \hline -x^3 + x^2 & x^2 - x + 1 \\ \hline -x^2 + \mu x - 1 & x^2 - x + 1 \\ \hline x-1 & x^2 - x + 1 \\ \hline -x+1 & x^2 - x + 1 \end{array}$ $D_f = \mathbb{R} - \{1\}$ ریشه ندارد $\frac{\mu}{(x-1)(x^2-x+1)} \rightarrow \Delta < 0 \rightarrow$	ب) $\frac{x+\mu}{(x-1)(x^2-x+1)} \geq 0$ $(-\infty, -\mu] \cup (1, +\infty) = D_f$	۲
$\mu \rightarrow x^2 - \omega x-1 - \mu x + \omega \neq 0$ $x^2 - \omega x-1 - \mu x + \omega$ $x \geq 0 \rightarrow x^2 - \omega x + \omega - \mu x + \omega \neq 0 \rightarrow x^2 - \sqrt{x+1} \neq 0 \quad (x-\mu)(x-\omega)$ $x < 0 \rightarrow x^2 + \omega x - \omega - \mu x + \omega \neq 0 \rightarrow x^2 + \mu x \neq 0 \quad x(x+\mu) \neq 0$ $D_f = \mathbb{R} - \{\mu, \omega, 0, -\mu\}$		۳
الف) $\begin{array}{l} [-x] - \mu \geq 0 \\ [-x] \geq \mu \\ D_f = (-\infty, -\mu] \end{array}$	ب) $\begin{array}{l} [x]^\mu - \mu[x] - \mu \neq 0 \\ ([x]+1)([x]-\mu) \neq 0 \\ [x]+1 \neq 0 \quad [x]-\mu \neq 0 \\ [x] \neq -1 \quad [x] \neq \mu \\ \downarrow \quad \downarrow \\ [-1, 0] \quad [\mu, \infty) \end{array}$ $D_f = \mathbb{R} - \{[-1, 0] \cup [\mu, \infty)\}$	۴
الف) $\begin{array}{l} [x - \frac{\mu}{\mu} + \frac{\mu}{\mu}] + [x + \frac{\mu}{\mu}] \geq 0 \\ \mu[x + \frac{\mu}{\mu}] - 1 \geq 0 \\ [x + \frac{\mu}{\mu}] \geq \frac{1}{\mu} \\ x + \frac{\mu}{\mu} \geq 1 \\ x \geq \frac{1}{\mu} \end{array}$	ب) if $\begin{array}{l} a \in \mathbb{Z} \quad [a] + [-a] = 0 \\ a \notin \mathbb{Z} \quad " \quad " = 1 \end{array} \rightarrow x - \frac{1}{\mu} \in \mathbb{Z}$ $D_f = \left\{x \mid x = k + \frac{1}{\mu}, k \in \mathbb{Z}\right\}$	۵

$$D_f = \left[\frac{1}{\mu}, +\infty\right)$$

الف) $\frac{\cot x + 1}{\tan x + 1} \rightarrow \sin x \neq 0$
 $\tan x + 1 \rightarrow \cos x \neq 0$
 $\tan x + 1 \neq 0$
 $\tan x \neq -1$

$$D_f = \mathbb{R} - \left[\frac{k\pi}{\mu}, k\pi - \frac{\pi}{\mu} \right]$$

ب) $\sqrt{1 - F \sin^2 x} \rightarrow$
 $1 - F \sin^2 x \geq 0$
 $1 \geq F \sin^2 x$
 $\frac{1}{F} \geq \sin^2 x$
 $\frac{1}{\mu} \geq \sin x \geq -\frac{1}{\mu}$

$$D_f = \left[\mu k\pi - \frac{\pi}{\mu}, \mu k\pi + \frac{\pi}{\mu} \right]$$

الف) $\sqrt{\mu \sin x - 1} \rightarrow \mu \sin x - 1 \geq 0$
 $\sin x \geq \frac{1}{\mu}$

$$D_f = \left[\mu k\pi + \frac{\pi}{\mu}, \mu k\pi + \frac{3\pi}{\mu} \right]$$

ب) $y = \sqrt{1 - \mu \cos x}$

$$1 - \mu \cos x \geq 0$$

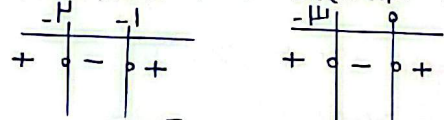
$$\frac{1}{\mu} \geq \cos x$$

$$D_f = \left[\mu k\pi + \frac{\pi}{\mu}, \mu k\pi - \frac{\pi}{\mu} \right]$$

الف) $-1 \leq x^2 + \mu x + 1 \leq 1$

• $x^2 + \mu x + 1 \leq 1, x^2 + \mu x \leq 0$

• $x(x + \mu) \leq 0, x(x + \mu) \leq 0$



$$(-\infty, -\mu] \cup [0, +\infty), [-\mu, 0] \rightarrow D_f = [-\mu, \mu] \cup [-1, 0]$$

ب) $0 - \mu x \geq 0, -1 \leq \sqrt{0 - \mu x} \leq 1$

$$0 \geq \mu x$$

$$\mu > 0, x \leq 0$$

$$0 - \mu x \leq 1$$

$$F \leq \mu x$$

$$\mu \leq x$$

$$D_f = [\mu, \mu, 0]$$

الف) $x > 0$ I

$$1 - \log_{\mu} x > 0$$

$$1 > \log_{\mu} x$$

$$x < \mu$$
 II

$$I \cap II \rightarrow (0, \mu) = D_f$$

ب) $x > 0$ I

$$1 - \log_{\frac{1}{\mu}} x > 0$$

$$1 > \log_{\frac{1}{\mu}} x$$

$$x < \frac{1}{\mu}$$
 II

$$I \cap II \rightarrow (0, \frac{1}{\mu}) = D_f$$

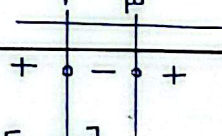
الف) $\mu^{F x - x^{\mu}} - 1 \geq 0$

$$\mu^{F x - x^{\mu}} \geq \mu^{\mu}$$

$$F x - x^{\mu} \geq \mu$$

$$\geq x^{\mu} - F x + \mu$$

$$\geq (x - 1)(x - \mu)$$



$$D_f = [1, \mu]$$

ب) $\frac{\mu x + Q}{\mu x + F} \in W$

$$x = -\frac{F W - Q}{\mu W - \mu} \rightarrow \frac{-F W + Q}{\mu W - \mu}$$

$$D_f = \left\{ x \mid x = \frac{-F k + Q}{\mu k - \mu}, k \in W \right\}$$