

نام و نام خانوادگی (سوفیا حیدری) پاسنامه تشریحی تکلیف شماره ۳ کلاس یازدهم B

الف) $\Rightarrow 2w^3 + 3w^2 - 8w + 3 \neq 0$

$$\frac{2w^3 + 3w^2}{2w^2 - 2w^2} \quad \frac{8w - 3}{2w^2 - 2w^2} \quad \frac{w-1}{2w^2 + 5w - 3}$$

$$\frac{5w^2 - 8w}{2w^2 - 2w^2} \quad \frac{-3w + 3}{-3w + 3}$$

$$\frac{w^2 + 5w - 4}{(w-1)(w+4)}$$

$$(w-1)(2w^2 + 5w - 3) \neq 0$$

$$\frac{1}{2}, -3$$

$$D_f = \mathbb{R} - \left\{ \frac{1}{2}, -3 \right\}$$

ب) $\Rightarrow 2w^3 + 9w^2 + 11w + 3 \neq 0$

$$\frac{2w^3 + 9w^2}{2w^2 + 2w^2} \quad \frac{11w + 3}{2w^2 + 2w^2} \quad \frac{w+1}{2w^2 + 5w + 3}$$

$$\frac{7w^2 + 11w}{2w^2 + 2w^2} \quad \frac{3w + 3}{3w + 3}$$

$$\frac{w^2 + 5w + 4}{(w+1)(w+4)}$$

$$(w+1)(2w^2 + 5w + 3) \neq 0$$

$$-\frac{1}{2}, -3$$

$$D_f = \left\{ -3, -1, -\frac{1}{2} \right\}$$

الف) $\Rightarrow w^3 - 2w^2 + 2w - 1 \neq 0$

$$\frac{w^3 - 2w^2}{w^2 - w^2} \quad \frac{2w - 1}{w^2 - w^2} \quad \frac{w-1}{w^2 - w^2}$$

$$\frac{-w^2 + 2w}{w^2 - w^2} \quad \frac{-w^2 + w}{-w^2 + w}$$

$$\frac{w-1}{w-1}$$

$$(w-1)(w^2 - w + 1)$$

$$D_f = \mathbb{R} - \{1\}$$

ب) $\frac{w+3}{w^3 - 2w^2 + 2w - 1} \geq 0$

$$\frac{w+3 \rightarrow -3}{(w-1)(w^2 - w + 1)} \geq 0$$

$$\frac{-3}{+ \phi - \phi +}$$

$$D_f = (-\infty, -3) \cup (1, +\infty)$$

$w^2 - 5(w-1) - 2w + 5 \neq 0$

$w-1 \geq 0 \rightarrow w^2 - 5w + 5 - 2w + 5 \rightarrow w^2 - 7w + 10 \neq 0 \quad (w-2)(w-5) \neq 0$

$w-1 < 0 \rightarrow w^2 + 5w - 5 - 2w + 5 \rightarrow w^2 + 3w \neq 0 \quad w(w+3) \neq 0$

$$D_f = \mathbb{R} - \{-3, 0, 2, 5\}$$

الف) $y = \sqrt{-w-2} \quad [-w]-2 \geq 0 \quad [-w] \geq 2 \quad -w \geq 2 \rightarrow w \leq -2$

$$D_f = (-\infty, -2]$$

ب) $y = \frac{5w^2 + 9}{[w]^2 - 2[w] - 3}$

$$[w]^2 - 2[w] - 3 \neq 0$$

$$([w]+1)([w]-3) \neq 0$$

$$[w] < -1$$

$$[w] = -1 \rightarrow -1 < w < 0$$

$$[w] = 3 \rightarrow 3 \leq w < 4$$

$$D_f = \mathbb{R} - \{ [-1, 0) \cup [3, 4) \}$$

الف) $y = \sqrt{[w - \frac{1}{2}] + [w + \frac{1}{2}]}$

$$[w - \frac{1}{2}] + [w + \frac{1}{2}] \geq 0 \rightarrow [w - \frac{1}{2}] + [w - \frac{1}{2}] + 1 \geq 0$$

ب) $y = \sqrt{[w - \frac{1}{2}] + [\frac{1}{2} - w]}$

$[t] + [-t] \geq 0 \quad t \in \mathbb{Z} \rightarrow 0 \quad \checkmark$

$t \notin \mathbb{Z} \rightarrow -1 \quad \times$

$2[w - \frac{1}{2}] \geq -1 \quad [w - \frac{1}{2}] \geq -\frac{1}{2}$

$w - \frac{1}{2} \geq 0 \quad w \geq \frac{1}{2}$

$$D_f = [\frac{1}{2}, +\infty)$$

$w - \frac{1}{2} \in \mathbb{Z} \rightarrow D_f = \{w \mid w = k + \frac{1}{2}, k \in \mathbb{Z}\}$

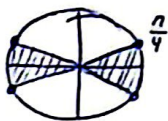
$$\text{الف) } y = \frac{\cot u + 1}{\tan u + 1}$$

$$\tan u \neq -1$$



$$D_f = \mathbb{R} - \left\{ k\pi - \frac{\pi}{4} \right\}$$

$$\text{ب) } y = \sqrt{1 - \varepsilon \sin^2 u} \rightarrow 1 - \varepsilon \sin^2 u \geq 0 \quad \sin^2 u \leq \frac{1}{\varepsilon} \quad \frac{1}{\varepsilon} \leq \sin u \leq \frac{1}{\varepsilon}$$



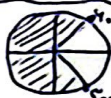
$$D_f = \left[k\pi - \frac{\pi}{4}, k\pi + \frac{\pi}{4} \right]$$

$$\text{الف) } y = \sqrt{r \sin u - 1} \quad r \sin u - 1 \geq 0 \quad \sin u \geq \frac{1}{r}$$



$$D_f = \left[r k \pi + \frac{\pi}{4}, r k \pi + \frac{5\pi}{4} \right]$$

$$\text{ب) } y = \sqrt{1 - r \cos u} \quad 1 - r \cos u \geq 0 \quad \cos u \leq \frac{1}{r}$$



$$D_f = \mathbb{R} - \left(r k \pi - \frac{\pi}{4}, r k \pi + \frac{\pi}{4} \right)$$

$$\text{الف) } y = \arcsin(u^r + r u + 1) \quad -1 \leq u^r + r u + 1 \leq 1$$

$$u^r + r u + 1 \geq 0 \rightarrow (u+1)(u+r) \geq 0 \quad \frac{-r}{1+r} \leq u \leq -1 \quad (-\infty, -r] \cup [-1, +\infty)$$

$$u^r + r u \leq 0 \rightarrow u(u+r) \leq 0 \quad \frac{-r}{1+r} \geq u \geq 0 \rightarrow [-r, 0]$$

$$D_f = [-r, -r] \cup [-1, 0]$$

$$\text{ب) } \cos y = \sqrt{\Delta - r u} \quad \Delta - r u \geq 0 \quad r u \leq \Delta \quad u \leq \frac{\Delta}{r}$$

$$-1 \leq \sqrt{\Delta - r u} \leq 1 \rightarrow \Delta - r u \leq 1 \rightarrow r u \geq \Delta - 1 \quad u \geq r$$

$$D_f = \left[r, \frac{\Delta}{r} \right]$$

$$\text{الف) } y = \log_r \left(\frac{1 - \log \frac{u}{r}}{r} \right)$$

$$u > 0$$

$$1 - \log \frac{u}{r} > 0 \rightarrow \log \frac{u}{r} < 1 \rightarrow u < r$$

$$D_f = (0, r)$$

$$\text{ب) } y = \log_r \left(\frac{1 - \log \frac{u}{r}}{r} \right)$$

$$u > 0$$

$$1 - \log \frac{u}{r} > 0 \rightarrow \log \frac{u}{r} < 1 \Rightarrow u > \frac{1}{r}$$

$$D_f = \left(\frac{1}{r}, r \right)$$

$$\text{الف) } \sqrt{r^{\varepsilon u - u^r} - 1} \rightarrow r^{\varepsilon u - u^r} \geq 1$$

$$\varepsilon u - u^r \geq 0 \Rightarrow u^r - \varepsilon u + r \leq 0$$

$$(u-1)(u-r) \leq 0$$

$$\frac{1}{r} \leq u \leq r$$

$$D_f = [1, r]$$

$$\text{ب) } \left(\frac{r u + \Delta}{r u + \varepsilon} \right)!$$

$$\frac{r u + \Delta}{r u + \varepsilon} \in \mathbb{W}$$

$$r u + \Delta = r \omega u + \varepsilon \omega$$

$$r u - r \omega u = \varepsilon \omega - \Delta$$

$$u(r - r \omega) = \varepsilon \omega - \Delta \rightarrow u = \frac{\varepsilon \omega - \Delta}{r - r \omega}$$

$$D_f = \left\{ u \mid u = \frac{\varepsilon k - \Delta}{r - r k}, k \in \mathbb{W} \right\}$$