

$$f(x) = \sqrt{(a-2)x^2 + ax + b} \quad \Rightarrow \sqrt{2x+b} \xrightarrow{x=2} 2+b \neq 0 \Rightarrow \underline{b=-6}$$

برای اینکه عبارت زیر رادیکال از ۳ به ۳ تقریباً شمره باشد } $\Rightarrow a=2$

$$f(x) = \sqrt{x^2 + 2x + 2 - m^2} \quad D_f = \mathbb{R} \Rightarrow 4 - 1 + 4m^2 \leq 0 \Rightarrow 4m^2 - 3 \leq 0$$

$$1 - (-1) = 2 \Rightarrow m^2 \leq 1 \Rightarrow -1 \leq m \leq 1$$

$$f(x) = \frac{\sqrt{4-x^2}}{[x] + [-x] + 1} \quad -2 \leq x \leq 2 \Rightarrow$$

قابل قبول $x \in \mathbb{Z} \rightarrow [x] + [-x] = 0$

غیر قابل قبول $x \in (\mathbb{Z}, 1) \cup (1, 2) \rightarrow [x] + [-x] = -1 \rightarrow$

$$\Rightarrow \text{مقادیر } x = -2, -1, 0, 1, 2 \rightarrow \boxed{\mathbb{Z} \cap [-2, 2]}$$

$$g(x) = \sqrt{x^2(x+3)} \Rightarrow x = 0, -3 \rightarrow \frac{-3}{-1+1} = \Rightarrow D_g = [-3, +\infty)$$

$$h(x) = \sqrt{\frac{(x^2-1)(x^2-3x)}{x^2-1}} \rightarrow 0, 0, 3 \rightarrow \frac{-1}{+1} \frac{0}{-1} \frac{3}{-1} \frac{3}{+1} \Rightarrow D_h = (-\infty, 1] \cup [3, +\infty)$$

$$g(x) = \sqrt{|x-2|-3} \Rightarrow |x-2| \geq 3 \Rightarrow \left. \begin{matrix} x \leq -1 \\ x \geq 5 \end{matrix} \right\} \Rightarrow D_g = (-\infty, -1] \cup [5, +\infty)$$

$$h(x) = \sqrt{4-|2-x|} \Rightarrow |2-x| \leq 4 \Rightarrow \left. \begin{matrix} x \leq 6 \\ x \geq -2 \end{matrix} \right\} \Rightarrow D_h = [-2, 6]$$

$$f(x) = \sqrt{1-x|x|} \Rightarrow x|x| \leq 1 \quad \text{I} \quad x^2 \leq 1 \Rightarrow -1 \leq x \leq 1$$

$$\text{II} \quad x \leq 0 \Rightarrow x|x| = -x^2 \Rightarrow -x^2 \leq 1 \Rightarrow x^2 \geq -1 \Rightarrow \text{همیشه درست است} \quad \text{I} \cup \text{II} \Rightarrow D_f = (-\infty, 1]$$

$$g(x) = \frac{1}{\sqrt{3-|x-5|}} \rightarrow 3-|x-5| > 0 \Rightarrow |x-5| < 3 \Rightarrow -2 < x < 8$$

$$a) \frac{\sin^r x - 1}{\cos x} \Rightarrow \cos x \neq 0 \Rightarrow x \neq k\pi \Rightarrow D_f = \mathbb{R} - \{k\pi\}$$

✓

$$b) \frac{\cos x}{r \cos x - 1} \Rightarrow \cos x \neq \frac{1}{r} \Rightarrow x \neq 2k\pi + \frac{\pi}{r}, 2k\pi + \frac{r\pi}{r} \Rightarrow D_f = \mathbb{R} - \left\{2k\pi + \frac{\pi}{r}, 2k\pi + \frac{r\pi}{r}\right\}$$

$$a) y = \frac{x+r}{|rx+1| - |x+r|} \Rightarrow |rx+1| \neq |x+r| \Rightarrow rx^r + rx + 1 \neq x^r + rx + 1$$

$$(rx+1)^r \neq (x+r)^r \rightarrow rx^r - rx - 1 \neq 0$$

$$\Rightarrow x^r - rx - r \neq 0 \Rightarrow x = \frac{r}{r}, \frac{-r}{r}$$

✓

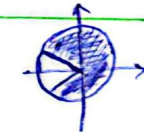
$$b) y = \sqrt{|rx+1| - |x+r|} \rightarrow x = \frac{r}{r}, \frac{-r}{r} \rightarrow \frac{-r}{r} \quad \frac{r}{r}$$

$$\Rightarrow D_f = (-\infty, \frac{-r}{r}] \cup [\frac{r}{r}, +\infty)$$

$$f(x) = \sqrt{\log_{\log_{\log} \omega} (rx-1)} \Rightarrow rx-1 > 0 \Rightarrow x > \frac{1}{r} \quad \text{I} \cup \text{II} \Rightarrow D_f = (\frac{1}{r}, r]$$

$$\Rightarrow \log_{\log_{\log} \omega} (rx-1) \leq 1 \Rightarrow rx-1 \leq \omega \Rightarrow \text{II} \Rightarrow x \leq r$$

✓

$$a) y = \log(rx \cos x + 1) \Rightarrow rx \cos x > -1 \Rightarrow \cos x > -\frac{1}{r} \rightarrow$$


$$\Rightarrow D_f = (2k\pi - \frac{r\pi}{r}, 2k\pi + \frac{r\pi}{r})$$

✓

$$b) \sqrt{\log_{\log} \frac{x-1}{x+1}} \quad \text{I} \rightarrow x \neq -1 \quad \text{II} \rightarrow \frac{x-1}{x+1} > 0 \Rightarrow \frac{-1}{+0} - \frac{1}{+0}$$

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