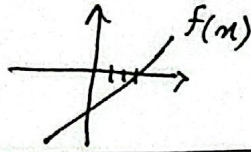
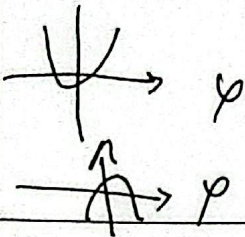


$D_f = [3, +\infty) \rightarrow$ این تابع به دلیل ظاهر افق به بالا درجه یک (خط مستقیم)



$y = \sqrt{ax+b} \Rightarrow y = \sqrt{2x+b}$

$y = 2x+b = 0 \Rightarrow b = -4$

$D_f = \mathbb{R} \Rightarrow \Delta < 0, a > 0 \Rightarrow$

$\sqrt{x^2 + 2x + 2 - m^2} \geq 0 \Rightarrow \Delta < 0 \Rightarrow$

$m^2 < 1 + m^2 < 0 \Rightarrow -1 + m^2 < 0 \Rightarrow m^2 < 1 \Rightarrow -1 < m < 1$

$f(x) = \frac{\sqrt{1-x^2}}{[x] + [-x] + 1} \rightarrow 1-x^2 \geq 0 \Rightarrow 1 \geq x^2 \Rightarrow -1 \leq x \leq 1$

$D_f = [-1, 1]$

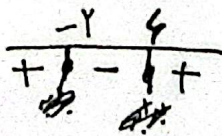
$y = \sqrt{x^2 + 3x} \Rightarrow x^2 + 3x \geq 0 \Rightarrow x(x+3) \geq 0$

$y = \sqrt{\frac{(x^2-1)(x^2-3x)}{x^2-1}} \Rightarrow x^2-1 \geq 0 \Rightarrow x \leq -1 \text{ or } x \geq 1$

$y = \sqrt{|x-2| - 3} \Rightarrow |x-2| - 3 \geq 0 \Rightarrow |x-2| \geq 3 \Rightarrow -1 \geq x \geq 5$

$D_y = [-1, 5]$

$y = \sqrt{1-|y-x|} \Rightarrow 1-|y-x| \geq 0 \Rightarrow |y-x| \leq 1 \Rightarrow x-1 \leq y \leq x+1$



$D_y = (-\infty, x-1] \cup [x+1, +\infty)$

$$y = \sqrt{1-x|x|} \Rightarrow 1-x|x| \geq 0 \Rightarrow 1 \geq x|x| \Rightarrow \boxed{x \leq 1}$$

$$D_y = (-\infty, 1]$$

$$y = \frac{1}{\sqrt{r-|x-1|-1}} \Rightarrow \sqrt{r-|x-1|-1} > 0 \Rightarrow r-|x-1| > 1 \Rightarrow r > |x-1| \Rightarrow r > x-1 \Rightarrow x < r+1$$

$$D_y = (-\infty, r+1)$$

$$y = \frac{2^{n^2} n - 1}{\cos n} \Rightarrow \cos n \neq 0 \Rightarrow D_y = \mathbb{R} - \left\{ k\pi + \frac{\pi}{2} \right\}$$

$$y = \frac{\cos x}{x \cos x - 1} \Rightarrow x \cos x - 1 \neq 0 \Rightarrow x \cos x \neq 1 \Rightarrow \cos x \neq \frac{1}{x}$$

$$D_y = \mathbb{R} - \left\{ k\pi + \frac{\pi}{2}, k\pi + \frac{\omega\pi}{r} \right\}$$

$$y = \frac{x+r}{|x+1|-|x+r|} \Rightarrow |x+1| = |x+r| \Rightarrow x = -\frac{r+1}{2}$$

$$x = -1 \Rightarrow \boxed{x = -1} \Rightarrow D_y = \mathbb{R} - \{-1\}$$

$$y = \sqrt{|x+1|-|x+r|} \Rightarrow |x+1| \geq |x+r| \Rightarrow x \leq -\frac{r+1}{2}$$

$$D_y = (-\infty, -\frac{r+1}{2}]$$

$$f(x) = \sqrt{\log_{\omega} \log_{\omega} (x-1)} \Rightarrow x-1 > 0 \Rightarrow \boxed{x > 1}$$

$$D_f = (1, \infty)$$

$$\log_{\omega} x > 0 \Rightarrow x > 1 \Rightarrow x-1 > 0 \Rightarrow x > 1$$

$$\log_{\omega} x < 1 \Rightarrow x-1 < \omega \Rightarrow x < \omega+1 \Rightarrow \boxed{x < \omega+1}$$

$$y = \log(x \cos x + 1) \Rightarrow x \cos x + 1 > 0 \Rightarrow x \cos x > -1 \Rightarrow \cos x > -\frac{1}{x}$$

$$D_y = \mathbb{R} - \left\{ k\pi - \frac{\pi}{2}, k\pi + \frac{\pi}{2} \right\}$$

$$y = \sqrt{\log \frac{x-1}{x+1}} \Rightarrow \log \frac{x-1}{x+1} \geq 0 \Rightarrow \frac{x-1}{x+1} \geq 1 \Rightarrow x-1 \geq x+1$$

$$\frac{x-1}{x+1} \geq 0 \Rightarrow \boxed{x \geq 1}$$