

$$f(x) = \sqrt{\log_{\frac{1}{2}}(2x-1)}$$

$$\log_{\frac{1}{2}}(2x-1) \geq 0 \Rightarrow 2x-1 \leq 1 \Rightarrow x \leq 1$$

$$\log_{\frac{1}{2}}(2x-1) \geq 0 \Rightarrow 2x-1 > 0 \Rightarrow x > \frac{1}{2}$$

$$D = \left(\frac{1}{2}, 1\right]$$

$$\log_{\frac{1}{2}}(2x-1) \leq 1 \Rightarrow 2x-1 \geq \frac{1}{2} \Rightarrow x \geq \frac{3}{4}$$

$$2x-1 \leq 2 \Rightarrow 2x \leq 3 \Rightarrow x \leq \frac{3}{2}$$

$$D = \left[\frac{3}{4}, \frac{3}{2}\right]$$

$$y = \log_2(2\cos x + 1) \Rightarrow 2\cos x + 1 > 0 \Rightarrow \cos x > -\frac{1}{2}$$

$$D = \left(2k\pi - \frac{2\pi}{3}, 2k\pi + \frac{2\pi}{3}\right)$$

$$y = \sqrt{\log_2 \frac{x-1}{x+1}}$$

$$\log_2 \frac{x-1}{x+1} \geq 0 \Rightarrow \frac{x-1}{x+1} \geq 1 \Rightarrow x-1 \geq x+1 \Rightarrow -2 \geq 2 \Rightarrow \text{No solution}$$

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$$D = (-\infty, -1)$$

$$y = \sqrt{(a+2)x^2 + ax + b}$$

$$D = (-\infty, 3]$$

$$a+2=0 \Rightarrow a=-2$$

$$-2x+b \geq 0 \Rightarrow b \geq 2x$$

$$x=3 \Rightarrow -4+b \geq 0 \Rightarrow b \geq 4$$

$$f(x) = \sqrt{x^2 + 2x + 2 - m^2}$$

$$f(x) = \sqrt{x^2 + 2x + 2 - m^2} \geq 0 \Rightarrow x^2 + 2x + 2 - m^2 \geq 0$$

$$1 - (-1) = 2$$

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

$$4-x^2 \geq 0 \Rightarrow -2 \leq x \leq 2$$

$$[x] + [-x] + 1 \neq 0$$

$$[x] + [-x] \neq -1$$

$$[x] + [-x] \neq -1$$

$$D = [-2, 2]$$