

الف $y = x - 3 \rightarrow x = -3$
 $(2x^2 + 3x^2 - 12x + 3) \rightarrow$ برای $x = -3$
 $(2-1)(2x^2 - 2x - 4) \rightarrow (2x^2 - 2x - 4)$
 $(x+2)(x-1)$
 $D_F = \mathbb{R} - \{-3, \frac{1}{2}, 1\}$

ب $y = \frac{x+3}{2x^2+4x+1 \cdot x+3}$
 $x = -3$
 $(x+3) \times (x+\frac{1}{2})(x+1)$
 $2x^2+4x+4$
 $D_F = \mathbb{R} - \{-3, -1, -\frac{1}{2}\}$

الف $y = \frac{x+3}{x^3-2x^2+x-1}$
 $x = -3$
 $(x-1)(x^2-x+1)$
 $D_F = \mathbb{R} - \{-3, 1\}$
 $\Delta = 1 - 2(1)(+1)$
 $\Delta < 0$

ب $y = \frac{x+3}{x^3-2x^2+x-1}$
 $x = -3$
 $(x-1)(x^2-x+1)$
 $D_F = \mathbb{R} - \{-3, 1\}$
 $\Delta < 0$

الف $y = \frac{2}{x^2-2|x-1|-2x+2}$

الف $y = \frac{x+3}{|2x+1| - |x+3|}$
 $x = -3$
 $|x+3| \neq 0$
 $x+3 = 0 \rightarrow x = -3$
 $x = -\frac{1}{2}$
 $D_F = \mathbb{R} - \{-3, -\frac{1}{2}\}$

ب $y = \frac{\sqrt{2x+1} - |x+3|}{x - \frac{1}{x}}$
 $x = -3$
 $x = -\frac{1}{x}$
 $D_F = \mathbb{R} - \{-3, -\frac{1}{2}\}$

$$y = \log_r \left(1 - \log_{\frac{1}{r}} \lambda \right) \rightarrow \lambda > 0$$

$$1 - \log_{\frac{1}{r}} \lambda > 0$$

$$\log_{\frac{1}{r}} \lambda < 1$$

$$P_r \left(\frac{1}{r}, +\infty \right)$$

$$\lambda > \frac{1}{r}$$

$$y = \log_r \left(1 - \log_c \lambda \right)$$

$$1 - \log_c \lambda > 0 \rightarrow \log_c \lambda < 1$$

$$D_f = (0, r)$$

$$\lambda < r$$

$$f(x) = \sqrt{\log \log (x-1)}$$

$$x-1 > 0$$

$$x > 1$$

$$x > \frac{1}{r}$$

$$D_r = (1, r)$$

$$\log x-1 > 0$$

$$x-1 > 1$$

$$x > 2$$

$$x > 1$$

$$x-1 < 4$$

$$(x-1)$$

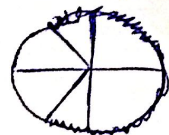
$$\log x-1$$

$$x(r)$$

$$\log \log (x-1)$$

$$\log \log (x-1)$$

$$y = \log (x \cos x + 1)$$



$$x \cos x + 1 > 0$$

$$\cos x > -\frac{1}{x}$$

$$-\frac{1}{x} < \cos x < 1$$

$$\sqrt{\log \frac{x-1}{x+1}}$$

$$\frac{x-1}{x+1} > 0$$

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

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

$$D_r = \mathbb{R} - (x \cos x + \frac{x\pi}{2}, x \cos x + \frac{x\pi}{2})$$

$$\frac{x-1}{x+1} > 1$$

$$\log \frac{x-1}{x+1}$$

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

$$(-\infty, \dots)$$

فرض کنیم که $a+x$ و b به گونه‌ای باشند که $f(x)$ دایره‌ای از این

$$a+x=0$$

$$x = -a$$

$$-x + b$$

$$-x + \frac{b}{r}$$

$$\frac{b}{r}$$

$$\frac{b}{r} = r$$

$$b = r^2$$

$$f(x) = \sqrt{x^2 + 2x + 1 - m^2}$$

$$\Delta \geq 0$$

$$f(x) = \sqrt{(x-m)^2 + 1 - m^2}$$

$$f(x) = \sqrt{1 - m^2} \leq 0 \rightarrow 1 - m^2 \leq 0$$

$$m^2 - 1 \leq 0 \rightarrow m^2 \leq 1$$

$$m^2 \leq 1$$

$$m^2 - 1 = 0$$

$$m^2 - 1 = 0$$

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

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

$$1 - x^2 \geq 0$$

$$x^2 \leq 1$$

$$x^2 \leq 1$$

$$[x] + [x] + 1$$

$$[x] + [x] + 1$$

$$x^2 \geq -1$$

$$x^2 \leq 1$$

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

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