

الف: $2x^3 + 3x^2 - 11x + 3 \neq 0$ $(x-1)(2x^2 + 5x - 3) \neq 0$ $(x-1)(2x^2 + 10x - 6) \neq 0$
 $(x-1)(2x+6)(2x-1) \neq 0$ $D_f = \mathbb{R} - \{-3, 1, \frac{1}{2}\}$

ب: $2x^3 + 9x^2 + 10x + 3 \neq 0$ $(x+1)(2x^2 + 7x + 3) \neq 0$ $(x+1)(2x^2 + 14x + 6) \neq 0$
 $(x+1)(2x+6)(2x+1) \neq 0$ $D_f = \mathbb{R} - \{-1, -3, -\frac{1}{2}\}$

الف: $x^3 - 2x^2 + 2x - 1 \neq 0$ $(x-1)(x^2 - x + 1) \neq 0$ $D_f = \mathbb{R} - \{1\}$
 مثبت به ازای هر مقدار

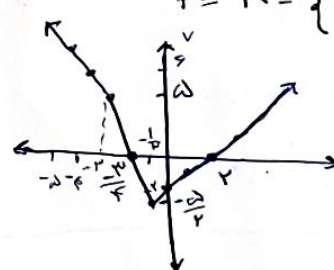
ب: $\frac{x+3}{(x-1)(x^2-x+1)} \geq 0$ $\frac{-3}{+} \quad \frac{1}{-} \quad \frac{1}{0^+}$ $D_f = \mathbb{R} - (-3, 1]$

$x^2 - 5|x-1| - 2x + 5 \neq 0$

$x^2 + 5x - 5 - 2x + 5$	$x^2 - 5x + 5 - 2x + 5$
$x^2 + 3x$	$x^2 - 7x + 10$
$x(x+3)$	$(x-5)(x-2)$

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

الف: $|2x+1| - |x+3| \neq 0$ $\frac{-3}{2-x} \quad \frac{-1}{-3x-2} \quad \frac{-1}{x-2}$ $D_f = \mathbb{R} - \{2, \frac{3}{5}\}$

ب: $|2x+1| - |x+3| \geq 0$ $\frac{3}{x} \quad \frac{2}{-}$ 

$D_f = \mathbb{R} - (\frac{3}{5}, 2)$

الف: $1 - \log_3 x > 0$ $1 > \log_3 x$ $x < 3$ $0 < x$ $D_f = (0, 3)$
 $x > 0$

ب: $1 - \log_{\frac{1}{2}} x > 0$ $\log_{\frac{1}{2}} x < 1$ $x > \frac{1}{2}$ $x > 0$ $D_f = (\frac{1}{2}, +\infty)$

$$\log_{\frac{1}{r}} \log_{\omega} r_{n-1} \geq 0, \quad \log_{\omega} r_{n-1} \leq 1, \quad r_{n-1} \leq \omega$$

$$r_{n-1} > 0, \quad r_n \leq 4$$

$$r_n > 1, \quad n \leq 3$$

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

$$D_f = \left(\frac{1}{r}, 3\right]$$

الف: $r \cos n + 1 > 0, \quad r \cos n > -1, \quad \cos n > \frac{-1}{r}$

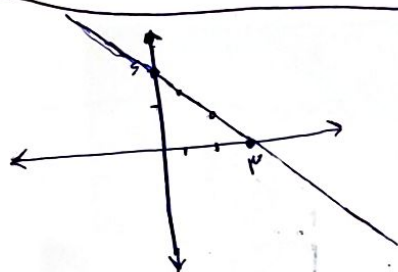
$$D_f = \mathbb{R} - \left[rk\pi + \frac{r\pi}{r}, rk\pi + \frac{r\pi}{r}\right]$$



$$\therefore \log_{10} \frac{n-1}{n+1} \geq 0, \quad \frac{n-1}{n+1} \geq 1, \quad \frac{n-1-n-1}{n+1} \geq 0, \quad \frac{-r}{n+1} \geq 0, \quad \frac{-1}{+ \frac{1}{0} -}$$

$$\frac{n-1}{n+1} > 0, \quad \frac{-1}{+ \frac{1}{0} - \frac{1}{0} +}$$

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



$$\frac{r}{+ \frac{1}{0} -}$$

یک ریشه دارد و بخشی مثبت و بخشی دیگر منفی
پس معادله درجه دوم نیست و درجه یک است
پس $a = -2$

$$-2x + b$$

$$-9 + b = 0$$

$$b = 9, \quad y = -2x + 9$$

$$b^2 - 4ac \leq 0$$

$$f - 1 + fm^2 \leq 0$$

$$fm^2 - f \leq 0$$

$$f(m^2 - 1) \leq 0$$

$$f(m+1)(m-1) \leq 0$$

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

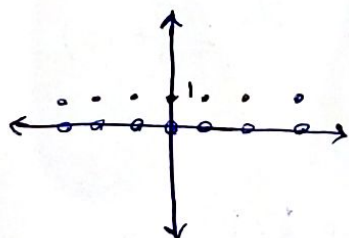
$$[-1, 1]$$

$$1 - (-1) = \boxed{2}$$

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

$$x^2 \leq f$$

$$-2 \leq x \leq 2$$



$$D_f = \{-2, -1, 0, 1, 2\}$$

عدد صحیح

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