

نام و نام خانوادگی: ... پاسخنامه تشریحی تکلیف شماره ۳ ... کلاس: ...

الف) $\frac{x+3}{(x-1)(2x-1)(x+3)} = 0 \Rightarrow x \neq 1, +\frac{1}{2}, -3$
 $D_f = R - \{-3, +\frac{1}{2}, 1\}$

ب) $2+10=9+3 \Rightarrow \frac{x+3}{(x+1)(2x+1)(x+3)} \Rightarrow x \neq -1, -\frac{1}{2}, -3$
 $D_f = R - \{-3, -\frac{1}{2}, -1\}$

الف) $\frac{x+3}{(x-1)(x^2-x+1)} = 0 \Rightarrow x \neq 1$ $x^2-x+1 \neq 0$
 $D_f = R - \{1\}$

ب) $x > 1 \Rightarrow x+3 > 0 \Rightarrow \frac{-A}{-A} = 1$
 $D_f = (-\infty, -3] \cup (1, +\infty)$

$x > 1 \Rightarrow |x-1| = x-1 \Rightarrow x^2-2x+5-\Delta x+\Delta = x^2-7x+10 = (x-5)(x-2)$
 $x < 1 \Rightarrow |x-1| = 1-x \Rightarrow x^2-2x+5-\Delta x+\Delta = x^2+3x$
 $\Rightarrow x(x+3) \Rightarrow x \neq 0, -3$
 $D_f = R - \{-3, 0, 2, 5\}$

الف) $x < -3 \Rightarrow -2x-1-(-x-3) = 2-x \Rightarrow x \neq 2$
 $x < -\frac{1}{2} \Rightarrow -2x-1-x-3 = -3x-4 \Rightarrow x \neq -\frac{4}{3}$
 $x > -\frac{1}{2} \Rightarrow 2x+1+x+(-3) = 3x-2 \Rightarrow x \neq \frac{2}{3}$
 $D_f = R - \{-\frac{4}{3}, \frac{2}{3}, 2\}$

ب) $|2x+1| - |x+3| \geq 0 \Rightarrow D_f = (-\infty, -\frac{4}{3}) \cup (2, +\infty)$

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

ب) $x > 0, 1 - \log_{\frac{1}{3}} x > 0 \Rightarrow \log_{\frac{1}{3}} x < 1 \Rightarrow x > \frac{1}{3}$
 $D_f = (\frac{1}{3}, +\infty)$

$$\log_a^{(2x-1)} > 0 \Rightarrow 2x-1 > 1 \Rightarrow x > 1 \quad (1)$$

$$\log_{a/2}^{\log_a^{(2x-1)}} > 0 \Rightarrow \log_a^{(2x-1)} \leq 1 \Rightarrow 2x-1 \leq a \Rightarrow x \leq 3 \quad (2)$$

$$\Rightarrow D_f = [1, 3]$$

$$\text{الف) } \Rightarrow 2\cos x + 1 > 0 \Rightarrow \cos x > -\frac{1}{2} \Rightarrow D_f = (2K\pi - \frac{2\pi}{3}, 2K\pi + \frac{2\pi}{3})$$

$$\text{ب) } \frac{x-1}{x+1} > 0 \rightarrow \text{الف) } \Rightarrow \begin{cases} x > 1 \\ x < -1 \end{cases} \quad \log\left(\frac{x-1}{x+1}\right) > 0$$

$$\text{جواب مثبت} \Rightarrow \frac{x-1}{x+1} > 1 \Rightarrow \frac{x-1}{x+1} - 1 > 0 \Rightarrow \frac{-2}{x+1} > 0 \Rightarrow x < -1 \quad (1, 2) \Rightarrow D_f = (-\infty, -1)$$

اگر ضرب x مثبت باشد دانه ۲ بازه خواهد بود و اگر منفی باشد دانه ۲ مگر با هم بود بنابراین

$$a+2=0 \Rightarrow a=-2 \Rightarrow -2x+b \geq 0 \Rightarrow x \leq \frac{b}{2}$$

$$\Rightarrow \frac{b}{2} = 3 \Rightarrow \underline{b=6}$$

$$\sqrt{x^2+2x+2}-m^2 \geq 0 \Rightarrow x^2+2x+2-m^2 \geq 0 \Rightarrow x^2+2x+2=(x+1)^2+1$$

$$(x+1)^2+1-m^2 \geq 0+1-m^2=1-m^2 \Rightarrow |m^2| \geq 0$$

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

$$f(x) = \frac{\sqrt{4-x^2}}{[x]+[-x]+1} \Rightarrow \text{خرج مثبت} \Rightarrow 4-x^2 \geq 0 \Rightarrow -2 \leq x \leq 2$$

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