سرویس احوان تکلیف ۲۶ دهم تجربی ۱۳

Subject:
Date

۱- $1-a+b=0$, $9-3a+b=0$

$a+b=4+3=7$

$\Rightarrow -8+2a=0 \Rightarrow a=4, b=3$

۲- $(x-4n)^2=(x+1)^2 \Rightarrow -4n=1 \Rightarrow n=\frac{-1}{4}$

$(k-2)x+m-1 \xrightarrow{x=4} 4k-8+m-1=0 \Rightarrow 4k+m=9 \xrightarrow{k=1} m=5$

$\frac{m}{n}+k=\frac{5}{\frac{-1}{4}}+1=-19$

۳- $y=-\frac{1}{2}x^2+2x+9>\frac{7}{2} \Rightarrow y=-\frac{1}{2}x^2+2x+\frac{11}{2}>0$

$\Rightarrow x=\frac{-2\pm\sqrt{4+11}}{-1}=3,-1$ → (−, +, −) at −1, 3

$b-a=3-(-1)=4$

۴- $x^3-2x^2-x+2 \;|\; x-1$

$-x^3+x^2$

$-2x^2-x$

$+2x^2-2x$

$-3x+2$

$+3x-3$

0

$x^3-2x-3=0 \Rightarrow (x-3)(x+1)=0$

$f(x)=x^3-2x^2-x+2=(x-1)(x-3)(x+1)$

(−, +, −, +) at −1, 1, 3

$\Rightarrow (a,b)=(1,3)$ میانگین → $\frac{3+1}{2}=2$

$f(3)=8-12-3+3=-4$

۶- $\Delta<0 \quad a^2+1-2a-4a+4<0 \Rightarrow a^2-6a+5<0 \Rightarrow (a-1)(a-5)<0$

(+, −, +) at 1, 5

$\Rightarrow a=(1,5)$

$\Rightarrow \emptyset$ غیرممکن

مثبت نیست $\Rightarrow (-\infty,1)$

۹- $\frac{m(m^2+m)}{m-2}>0 \Rightarrow \frac{m^2(m^2+1)}{m-2} \Rightarrow m-2>0 \Rightarrow m>2$

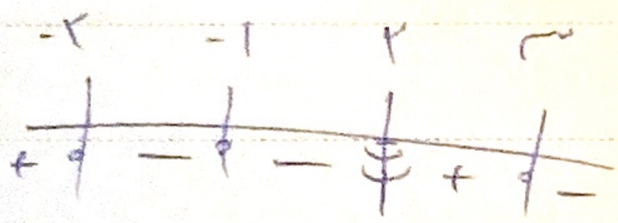
$\Rightarrow m=(2,+\infty)$

Subject :

Date

۷- $\frac{(x^2-x-6)(x-1)^2}{(x^2+x+1)(2-x)^2} \leq 0 \Rightarrow \frac{(x-3)(x+2)(x-1)^2}{(x^2+x+1)(2-x)^2} \leq 0$

$\Delta < 0$

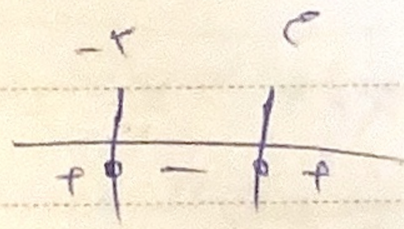
$\Rightarrow$ 

$\Rightarrow x \in [-2,1] \cup [1,2) \cup [3,+\infty) = [-2,2) \cup [3,+\infty)$

۸- $f(x) = \frac{3x^2-2x}{x^2+1} < 1 \Rightarrow \frac{3x^2-2x-x^2-1}{x^2+1} < 0 \Rightarrow \frac{2x^2-2x-1}{x^2+1} < 0$

$\Delta > 0$ (x^2+1 همیشه مثبت)

$\Rightarrow \frac{2x^2-2x-1}{x^2+1} < 0 \Rightarrow (2x^2-2x-1) < 0$



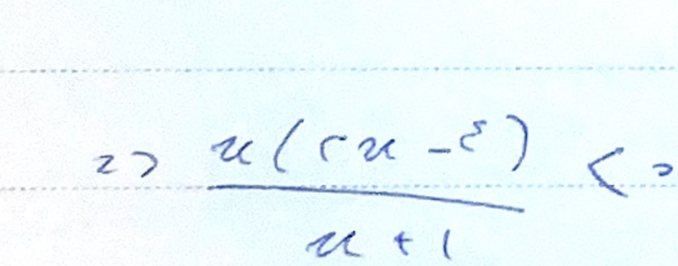
$\Rightarrow (-2,3)$

$\frac{1}{3} : (-1) - 3 = 2 - a \Rightarrow (-2,1) = (a,b) \Rightarrow$

۹- $-1 < \frac{2x^2-4x}{x+1} \Rightarrow \frac{2x^2-4x+x+1}{x+1} > 0$

$\Delta < 0$

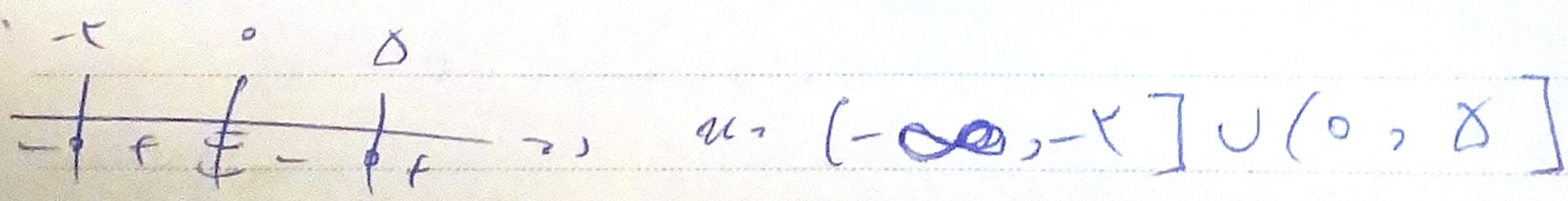
$\Rightarrow \frac{2x^2-3x+1}{x+1} > 0 \Rightarrow x+1 > 0 \Rightarrow x \in (-1,+\infty)$

$\frac{2x^2-4x}{x+1} < 0 \Rightarrow \frac{x(2x-4)}{x+1} < 0 \Rightarrow$ 

$\Rightarrow x \in (-\infty,-1) \cup (0,2)$

$(-1,+\infty) \cap ((-\infty,-1) \cup (0,2)) = (0,2)$

۱۰- $\frac{x^2-10}{x} - 3 < 7 \Rightarrow \frac{x^2-3x-10}{x} < 0 \Rightarrow \frac{(x-5)(x+2)}{x} < 0$



$\Rightarrow x \in (-\infty,-2] \cup (0,5]$