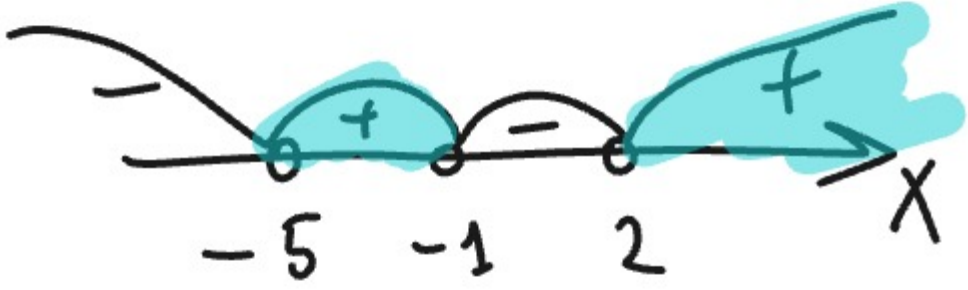
31.01.2024 (среда)

№1

1) $(x+1)(x-2)(x+5)>0$ | $(x+1)\cdot(x-2)\cdot(x+5)=0$

$x+1=0$ $\quad x-2=0$ $\quad x+5=0$

$x=-1$ $\quad x=2$ $\quad x=-5$



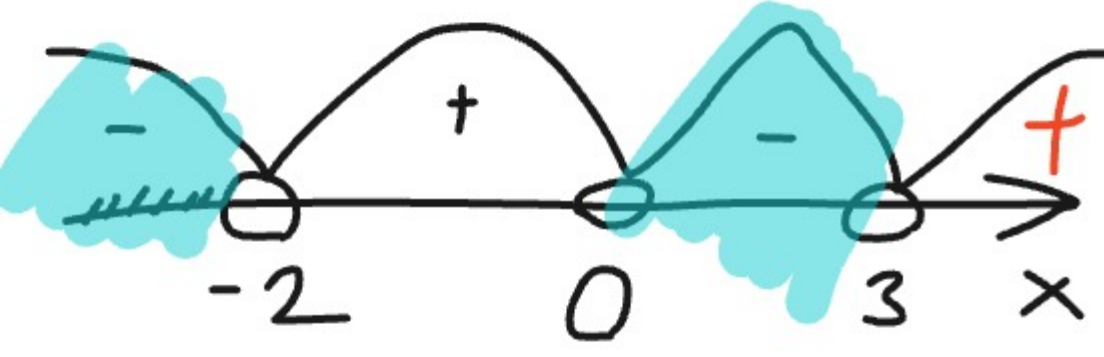
$x \in (-5;-1) \cup (2;+\infty)$

2) $x(x-3)(x+2)<0$

$x(x-3)(x+2)=0$

$x=0 \quad x-3=0 \quad x+2=0$

$x=3 \quad x=-2$



$x \in (-\infty; -2) \cup (0; 3)$

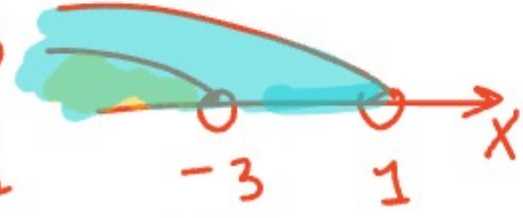
№3

1) $\frac{x+3}{x-1} > 0$

$\frac{a}{b} \geq 0$ $\quad$ $\frac{a}{b} \leq 0$

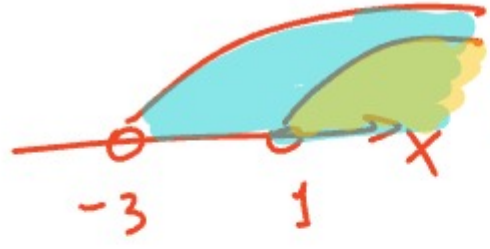
$\begin{cases} a>0 \\ b>0 \end{cases}$; $\begin{cases} a<0 \\ b<0 \end{cases}$ $\quad$ $\begin{cases} a>0 \\ b<0 \end{cases}$; $\begin{cases} a<0 \\ b>0 \end{cases}$

$\begin{cases} x+3<0 \\ x-1<0 \end{cases}$; $\begin{cases} x<-3 \\ x<1 \end{cases}$

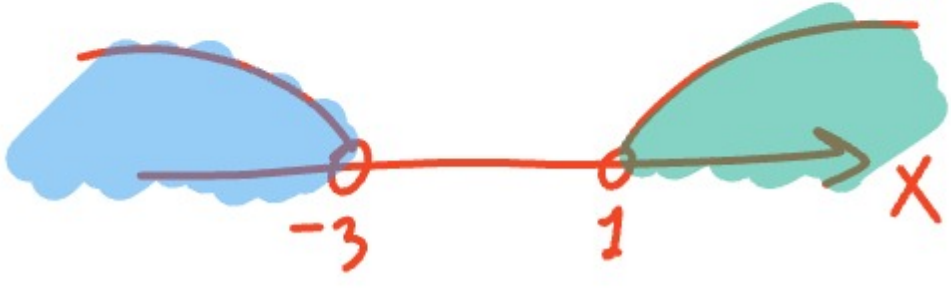


$x \in (-\infty; -3)$

$\begin{cases} x+3>0 \\ x-1>0 \end{cases}$; $\begin{cases} x>-3 \\ x>1 \end{cases}$



$x \in (1; +\infty)$



$x \in (-\infty; -3) \cup (1; +\infty)$

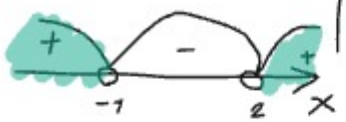
2) $\frac{(x-2)(x+1)}{x-4} < 0$

1 случай

2 случай

$$\begin{cases} (x-2)\cdot(x+1) > 0 \\ x-4 < 0 \end{cases};$$

$(x-2)\cdot(x+1) > 0$



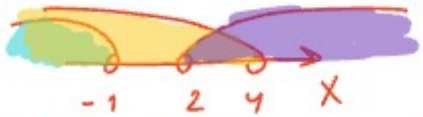
$(x-2)\cdot(x+1) = 0$

$x-2=0 \quad x+1=0$

$x=2 \quad x=-1$

$x \in (-\infty; -1) \cup (2; +\infty)$

$$\begin{cases} x < -1 \\ x < 4 \\ x > 2 \end{cases}$$

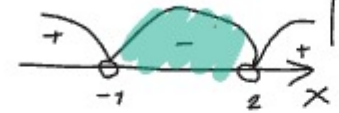


$x \in (-\infty; -1) \cup (2; 4)$

$$\begin{cases} (x-2)\cdot(x+1) < 0 \\ x-4 > 0 \end{cases}$$

$$\begin{cases} -1 < x < 2 \\ x > 4 \end{cases}$$

$(x-2)\cdot(x+1) < 0$

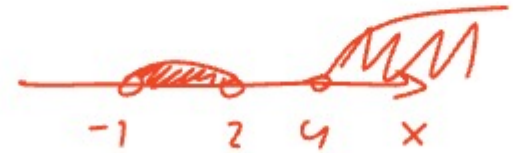


$(x-2)\cdot(x+1) = 0$

$x-2=0 \quad x+1=0$

$x=2 \quad x=-1$

$x \in (-1; 2)$



нет решений