Nejednačine - vežbanje

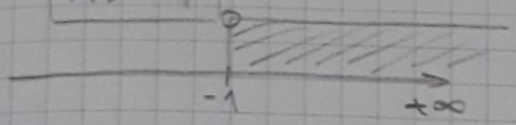
(17.11.2020)

209. a) $x+3 < 4+2x$

$x-2x < 4-3$

$-x < 1 \ / :(-1)$

$\boxed{x > -1}$



$x \in (-1, +\infty)$

b) $6x-2 < 12x+19$

$6x-12x < 19+2$

$-6x < 21 \ / \cdot(-1)$

$6x > -21 \ / :6$

$x > \frac{21}{6}$ (:3)

$\boxed{x > -\frac{7}{2}}$

$x \in (-\frac{7}{2}, +\infty$

203. a) $4 - \frac{x-1}{6} \geq \frac{x}{3} \ / \cdot 6$

$6 \cdot 4 - \cancel{6} \cdot \frac{x-1}{\cancel{6}} \geq \cancel{2} \cdot \frac{x}{\cancel{3}_1}$

$24 - 1(x-1) \geq 2x$

$24 - x + 1 \geq 2x$

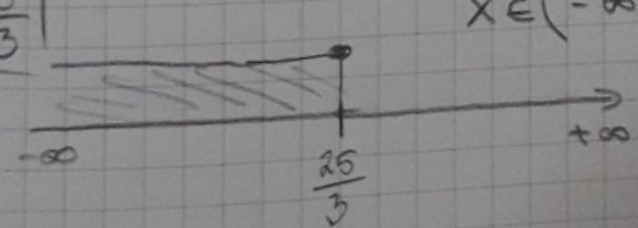
$-x - 2x \geq -24 - 1$

$-3x \geq -25 \ / \cdot(-1)$

$3x \geq 25 \ / :3$

$\boxed{x \geq \frac{25}{3}}$

$x \in (-\infty, \frac{25}{3})$



(210.) а) $\frac{x-3}{3} > 1 + \frac{x-6}{15} \quad / \cdot 15$

$5 \cancel{15} \cdot \frac{x-3}{\cancel{3}_1} > 15 \cdot 1 + \cancel{15} \cdot \frac{x-6}{\cancel{15}}$

$5(x-3) > 15 + x - 6$

$5x - 15 > 15 + x - 6$

$5x - x > 15 - 6 + 15$

$4x > 24 \quad / : 4$

$\boxed{x > 6}$

$x \in (6, +\infty)$

б) $\frac{x+1}{5} - \frac{x-3}{3} \leq \frac{2x-2}{5} - \frac{3-x}{2} \quad / \cdot 30$

$\cancel{30}^6 \cdot \frac{x+1}{5} - \cancel{30}^{10} \cdot \frac{x-3}{\cancel{3}_1} \leq \cancel{30}^{6} \cdot \frac{2x-2}{5_1} - \cancel{30}^{15} \cdot \frac{3-x}{\cancel{2}_1}$

$6(x+1) - 10(x-3) \leq 6(2x-2) - 15(3-x)$

$6x + 6 - 10x + 30 \leq 12x - 12 - 45 + 15x$

$6x + 10x - 12x - 15x \leq -12 - 45 - 6 - 30$

$-31x \leq -93 \quad / \cdot (-1)$

$31x \leq 93 \quad / : 31$

$\boxed{x \leq 3}$

$x \in [3, +\infty)$

Domaću: (211.) а) б),