

$$\begin{cases} 6 + 2x(1 - 3x) \leq -4(x - 1) - 3x(2x - 5) - 7 \\ 6 - x(x + 3) \leq (x + 2)^2 + 21 \end{cases} \quad [-1 \leq x \leq 1]$$

$$\begin{cases} \frac{1}{2} - x\left(\frac{1}{3} - 2x\right) + x - \frac{1}{6} > \frac{x}{2} + 6x\left(1 + \frac{x}{3}\right) \\ x(x + 1) - 4(x - 3) < 11x - x(1 - x) - 1 \end{cases} \quad [S = \emptyset]$$

$$\begin{cases} x - x\left(\frac{13}{5} - 12x\right) + 6 \geq x + 4x\left(\frac{7}{20} + 3x\right) \\ 3 - 2x(1 - x) < 9 - x(6 - 2x) \end{cases} \quad \left[x < \frac{3}{2}\right]$$

$$\begin{cases} 2 - 8x\left(5 - \frac{1}{4}x\right) + 16x < 7 - 20x + 2x(4 + x) \\ 4 - x^2 + 2x\left(6 - \frac{x}{2}\right) > 2 + 2x(6 - x) \end{cases} \quad \left[x > -\frac{5}{12}\right]$$

$$\begin{cases} x(2 - x^2) + 6x(2 - x) - 5x + 1 > 2x\left(4 - 3x - \frac{x^2}{2}\right) \\ 6x - 3 + 7x\left(x + \frac{4}{3}\right) \geq 2 - x\left(-\frac{1}{3} - 7x\right) \end{cases} \quad \left[x \geq \frac{1}{3}\right]$$

$$\begin{cases} 0,25 - \frac{1}{10}(2x - 1) < -\frac{1}{2}(x + 4) + \frac{1}{5}(3x - 2) \\ \frac{7}{4}\left(0,5 + \frac{x}{3}\right) - \frac{23}{4} + \frac{2}{3}(x - 0,5) < 0 \end{cases} \quad [S = \emptyset]$$

$$\frac{x}{x-2} - \frac{4+3x}{2-x} > 3 \quad [x < -10 \text{ o } x > 2]$$

$$6 - \frac{x}{2x+4} + \frac{x}{2} < \frac{x^2}{2x+4} \quad \left[-2 < x < -\frac{24}{12}\right]$$

$$\frac{x+1}{x+2} - 5 \geq \frac{x}{x+2} - \frac{3}{2x+4} \quad \left[-2 < x \leq -\frac{3}{2}\right]$$

$$3 - \frac{x-2}{2x+5} \leq 7 \quad \left[x < -\frac{5}{2} \text{ o } x \geq -2\right]$$

$$\frac{6-2x}{x-3} - 6 \geq \frac{4x}{x-3} \quad [-2 \leq x < 3]$$

$$ax + 2(x-1)^2 \geq 2x(x-3) + 5\left(\frac{1}{5}x + 2\right) \quad [\dots; \dots; a = -1; S = \emptyset]$$

$$2(x-1)^2 \leq x(2x-3) + 4 - ax \quad [\dots; \dots; a = 1; S = \mathbb{R}]$$

$$2a(x+1) + ax > (a+1)^2 - 2a(1-x) + x \quad [a > 1; x > a-1; \dots; a = 1; S = \emptyset]$$

$$a(x+a) \leq 2(a^2 - 2 + x) \quad [\dots; a < 2; x \geq a+2; a = 2; S = \mathbb{R}]$$

$$ax + a^2 \neq a(a-2x) \quad [a > 0; x \neq 0; a < 0; x \neq 0; \dots]$$

$$3(a+2x) - ax < 2(2x+1) + 2a \quad [\dots; a < 2; x < 1; a = 2; S = \emptyset]$$