

$$-4x < 5x - [-3(x-2) + 18]$$

$$-4x < 5x - [-3x + 6 + 18]$$

$$-4x < 5x - [-3x + 24]$$

$$-4x < 5x + 3x - 24$$

$$-4x - 5x - 3x < -24$$

$$-12x < -24$$

$$x > 2$$

$$11 - (2^{12} : 2^9)x \geq -3(1 - 2x)$$

$$11 - 8x \geq -3 + 6x$$

$$-8x - 6x \geq -11 - 3$$

$$-14x \geq -14$$

$$x \leq 1$$

$$22 - (2^{15}x - 2^{13}) : (2^4)^3 \geq 3x - 2(3 - 2x)$$

$$22 - (2^{15}x - 2^{13}) : 2^{12} \geq 3x - 6 + 4x$$

$$22 - 8x + 2 \geq 3x - 6 + 4x$$

$$-8x - 3x - 4x \geq -22 - 2 - 6$$

$$-15x \geq -30$$

$$x \leq 2$$

$$(6x-1)(2x-3) \leq (4x-1)(3x+2)$$

$$12x^2 - 18x - 2x + 3 \leq 12x^2 + 8x - 3x - 2$$

$$-18x - 2x - 8x + 3x \leq -3 - 3$$

$$-25x \leq -6$$

$$x \geq \frac{6}{25}$$

$$x^2 + (2x - 3)(x + 1) < x(x - 1) + (2x - 1)^2 - 2x^2$$

$$x^2 + 2x^2 + 2x - 3x - 3 < x^2 - x + 4x^2 + 1 - 4x - 2x^2$$

$$2x^2 + 2x - 3x + x - 4x^2 + 4x + 2x^2 < 3 + 1$$

$$4x < 4$$

$$x < 1$$

$$(x^2 + x + 2)^2 - x^2(x^2 + 5) \geq 2x(x-3)(x+3)$$

$$x^4 + x^2 + 4 + 2x^3 + 4x + 4x^2 - x^4 - 5x^2 \geq 2x^3 - 18x$$

$$4x + 18x \geq -4$$

$$22x \geq -4$$

$$x \geq -\frac{2}{11}$$

$$\frac{1}{2}x - \frac{1-x}{3} - 1 > 0$$

$$6 \cdot \frac{3x - 2 + 2x - 6}{6} > 0 \cdot 6$$

$$3x - 2 + 2x - 6 > 0$$

$$3x + 2x > +8$$

$$5x > +8$$

$$x > \frac{8}{5}$$

$$-\frac{2}{3} \left(\frac{3x}{2} - \frac{x-2}{4} \right) - \frac{1}{12} \leq 0$$

$$-x + \frac{x-2}{6} - \frac{1}{12} \leq 0$$

$$12. \frac{-12x + 2x - 4 - 1}{12} \leq 0 \cdot 12$$

$$-12x + 2x - 4 - 1 \leq 0$$

$$-10x \leq 5$$

$$x \geq -\frac{1}{2}$$

$$\left(-\frac{5}{2}x\right) : \frac{3}{2} + \left(\frac{15}{4}x\right) : \left(-\frac{8}{9}\right) < -\frac{1}{6}$$

$$-\frac{5}{2}x \cdot \frac{2}{3} + \frac{15}{4}x \cdot \left(-\frac{8}{9}\right) + \frac{1}{6} < 0$$

$$-\frac{5}{3}x - \frac{10}{3}x + \frac{1}{6} < 0$$

$$6 \cdot \frac{-10x - 20x + 1}{6} < 0 \cdot 6$$

$$-30x < -1$$

$$x > \frac{1}{30}$$

$$\frac{2(x-1)}{3} - 3 \cdot \frac{x-1}{2} \geq \frac{2-x}{18}$$

$$\frac{2x-2}{3} + \frac{-3x+3}{2} - \frac{2-x}{18} \geq 0$$

$$18. \quad \frac{12x - 12 - 27x + 27 - 2 + x}{18} \geq 0 \cdot 18$$

$$12x - 27x + x \geq 12 - 27 + 2$$

$$-14x \geq -13 \quad \Rightarrow \quad x \leq \frac{13}{14}$$

$$\left(\frac{2}{3}\right)^{-2}x + \frac{4-x}{2} < \left(\frac{8}{9}\right)^{-1}$$

$$\frac{9}{4}x + \frac{4-x}{2} - \frac{9}{8} < 0$$

$$8 \cdot \frac{18x + 16 - 4x - 9}{8} < 0 \cdot 8$$

$$14x < -7$$

$$x < -\frac{1}{2}$$

$$\left(\frac{1}{2} - \frac{3}{4}\right)^{-2} : \left(-\frac{4}{3}\right) + \frac{3x-2}{6} \leq \frac{1}{3} (-2)^{-2} - 10$$

$$\left(\frac{2-3}{4}\right)^{-2} \cdot \left(-\frac{3}{4}\right) + \frac{3x-2}{6} \leq \frac{1}{3} \cdot \left(+\frac{1}{4}\right) - 10$$

$$+ 16 \cdot \left(-\frac{3}{4}\right) + \frac{3x-2}{6} \leq + \frac{1}{12} - 10$$

$$- 12 + \frac{3x-2}{6} - \frac{1}{12} + 10 \leq 0$$

$$12 \cdot \frac{-144 + 6x - 4 - 1 + 120}{12} \leq 0 \cdot 12$$

$$6x \leq 29 \Rightarrow x \leq \frac{29}{6}$$

$$\frac{x-1}{\frac{1}{2} - \frac{1}{3}} \geq \frac{3(x-2)}{2}$$

$$\frac{x-1}{\frac{3-2}{6}} \geq \frac{3x-6}{2}$$

$$6x-6 - \frac{3x-6}{2} \geq 0$$

$$2 \cdot \frac{12x-12-3x+6}{2} \geq 0 \cdot 2$$

$$9x \geq 6 \Rightarrow x \geq \frac{2}{3}$$

$$\left(\frac{1}{3}x - 1\right)^3 - \frac{1}{27}x^3 \geq \frac{1}{3}(3-x)(3+x)$$

$$\frac{1}{27}x^3 - 1 - 3 \cdot \frac{1}{9}x^2 + 3 \cdot \frac{1}{3}x - \frac{1}{27}x^3 \geq 3 - \frac{1}{3}x^2$$

$$-1 + x - 3 \geq 0$$

$$x \geq 4$$

$$0,1(x-5) + 0,2(x+2) \geq 0,1(x-10)$$

$$\frac{1}{10}(x-5) + \frac{1}{5}(x+2) \geq \frac{1}{10}(x-10)$$

$$\cancel{\frac{1}{10}x} - \frac{1}{2} + \frac{1}{5}x + \frac{2}{5} \geq \cancel{\frac{1}{10}x} - 1$$

$$-\frac{1}{2} + \frac{1}{5}x + \frac{2}{5} + 1 \geq 0$$

$$10 \cdot \frac{-5 + 2x + 4 + 10}{10} \geq 0 \cdot 10$$

$$2x \geq -9 \Rightarrow x \geq -\frac{9}{2}$$

$$(x-3)^2 - (x+3)^2 < (x+3)(x-3) - x(x+12)$$

$$-6x - 6x < \cancel{x^2} - 9 - \cancel{x^2} - 12x$$

$$-12x + 12x < -9$$

$$0 < -9$$

Impossible

