

$$8 + 12x = a(4 - 6x) \quad 8 + 12x = 4a - 6ax$$

$$12x + 6ax = 4a - 8$$

$$x(12 + 6a) = 4a - 8 \Rightarrow x = \frac{4a - 8}{12 + 6a} = \frac{4(a - 8)}{6(2 + a)} = \frac{2(a - 8)}{3(2 + a)}$$

$$-8a - 3(3x - 5a) = 4(a - 6x) \quad -8a - 9x + 15a = 4a - 24x$$

$$24x + 9x = 4a - 15a + 8a$$

$$15x = -3a \Rightarrow x = \frac{-3a}{15} = \frac{-a}{5}$$

$$3x - 4b - 8 = 2b - 3x + 4 \quad 6x = 6b + 12 \Rightarrow x = b + 2$$

$$8b(x + 2) = 6bx - 10 \quad 8bx + 16b = 6bx - 10$$

$$2bx = -10 - 16b$$

$$x = \frac{-10 - 16b}{2b} = \frac{-5 - 8b}{b} = \frac{-(8b + 5)}{b}$$

$$\frac{b}{4x^2 - a^2} = \frac{b}{2x - a} + \frac{2b}{2x + a} = \frac{b}{(2x + a)(2x - a)} = \frac{b}{2x - a} + \frac{2b}{2x + a} \quad \swarrow (2x + a)(2x - a)$$

$$b = b(2x + a) + 2b(2x - a) \quad \swarrow : b$$

$$1 = 2x + a + 4x - 2a \Rightarrow 6x = 1 + a \Rightarrow x = \frac{1 + a}{6}$$

$$\frac{-2bx}{a^2 - b^2} = \frac{x}{a - b} + \frac{3a}{a + b} \quad \swarrow (a + b)(a - b)$$

$$-2bx = x(a + b) + 3a(a - b)$$

$$-2bx = ax + bx + 3a^2 - 3ab$$

$$ax + bx + 2bx = 3ab - 3a^2$$

$$x(a + 3b) = 3ab - 3a^2 \Rightarrow x = \frac{3ab - 3a^2}{a + 3b}$$

$$4a(a + 2x) + 2(2a - x) = 5a \quad 4a^2 + 8ax + 4a - 2x = 5a$$

$$x(8a - 2) = 5a - 4a - 4a^2$$

$$x = \frac{a - 4a^2}{8a - 2} = \frac{a(1 - 4a)}{-2(1 - 4a)} = \frac{-a}{2}$$

$$b(-2 - bx) = 6(bx + 2) \quad -2b - b^2x = 6bx + 12$$

$bx \neq -2$

$$6bx + b^2x = -2b - 12$$

$$x(6b + b^2) = -2(b + 6) \Rightarrow x = \frac{-2(b + 6)}{b(b + 6)} = \frac{-2}{b}$$

$$b(1 - bx) = x(b - 6) - 3 \quad b - b^2x = bx - 6x - 3$$

$b \neq 2, -3$

$$bx - bx - b^2x = -3 - b$$

$$x(b - b - b^2) = -3 - b \Rightarrow x = \frac{-(3 + b)}{-(b^2 + b - 6)} = \frac{-(b + 3)}{(b + 3)(b - 2)} = \frac{-1}{b - 2}$$

$$2x + 5 < 6 \quad 2x < 5 - 6 \quad \rightarrow \quad x < \frac{1}{2}$$

$$2 < \frac{x}{3} - 1 \quad 2 + 1 < \frac{x}{3} \quad \rightarrow \quad 3 \cdot 3 < x \quad \Rightarrow \quad x > 9$$

$$x < 6x - 15 \quad 15 < 6x - x \quad \rightarrow \quad 15 < 5x \quad \Rightarrow \quad 3 < x$$

$$\frac{x+1}{2} - 1 > 2 \quad \cdot 2 \quad x+1-2 > 4 \quad \rightarrow \quad x > 5$$

$$\frac{x}{3} - \frac{x}{4} \geq 5 \quad \cdot 12 \text{ פרוטות נכנסות} \quad 4x - 3x \geq 60 \quad \Rightarrow \quad x \geq 60$$

$$\frac{x}{2} - 9 > -\frac{2x}{5} \quad \cdot 10 \text{ פרוטות נכנסות} \quad 5x - 90 > -4x \quad \rightarrow \quad 9x > 90 \quad \Rightarrow \quad x > 10$$

$$2x - a < 1 \quad 2x < 1 + a \quad \Rightarrow \quad x < \frac{1+a}{2}$$

$$\frac{3x+a}{2} \leq 1 \quad \cdot 2 \quad 3x+a \leq 2 \quad \rightarrow \quad 3x \leq 2-a \quad \Rightarrow \quad x \leq \frac{2-a}{3}$$