

T8 NIMITTÄJÄ YHTÄLÖSSÄ 2

Nimittäjä yhtälössä. s95

509.

$$\text{a) } \frac{x}{2} + 7 = 12 \quad \| \quad -7$$

$$\frac{x}{2} = 5 \quad \| \quad \cdot 2$$

$$x = 10$$

$$\text{b) } \frac{y}{5} + 19 = 21 \quad \| \quad -19$$

$$\frac{y}{5} = 2 \quad \| \quad \cdot 5$$

$$y = 10$$

$$\text{c) } \frac{x}{5} - 2 = 5 \quad \| \quad +2$$

$$\frac{x}{5} = 7 \quad \| \quad \cdot 5$$

$$x = 35$$

$$\text{d) } \frac{5x}{3} - 9 = 0 \quad \| \quad +9$$

$$\frac{5x}{3} = 9 \quad \| \cdot 3$$

$$5 \cdot x = 27 \quad \| : 5$$

$$x = \frac{27}{5} = 5 \frac{2}{5} = 5,4$$

510.

$$\text{a) } \frac{x-1}{3} = \frac{2x}{7} \quad \| \text{ ker rotaan ristiin}$$

$$7(x-1) = 6x$$

$$7x - 7 = 6x \quad \| \quad +7$$

$$7x = 6x + 7 \quad \| \quad -6x$$

$$x = 7$$

$$\text{b) } \frac{4x-1}{3} = \frac{3x-2}{2} \quad \| \text{ ker rotaan ristiin}$$

$$2(4x-1) = 3(3x-2)$$

$$8x - 2 = 9x - 6 \quad \| \quad -8x$$

$$-2 = x - 6 \quad \| \quad +6$$

$$4 = x$$

$$\text{c) } \frac{5x-4}{5} = \frac{2x+7}{2} \quad \| \text{ ker rotaan ristiin}$$

$$2(5x-4) = 5(2x+7)$$

$$10x - 8 = 10x + 35 \quad \| -10x$$

$$-8 = 35 \quad \text{ei ratkaisua}$$

$$\text{d) } \frac{x+5}{3} = \frac{x+11}{5} \quad \| \text{ ker rotaan ristiin}$$

$$5(x+5) = 3(x+11)$$

$$5x+25 = 3x+33 \quad \| -3x$$

$$2x+25 = 33 \quad \| -25$$

$$2x = 8 \quad \| :2$$

$$x = 4$$

511.

$$\text{a) } \frac{y+4}{7} = \frac{y-4}{3} \quad \| \text{ ker rotaan ristiin}$$

$$3(y+4) = 7(y-4)$$

$$3y+12 = 7y-28 \quad \| -7y$$

$$-4y+12 = -28 \quad \| -12$$

$$-4y = -40 \quad \| :(-4)$$

$$y = 10$$

$$\text{b) } \frac{x+7}{5} = \frac{x+1}{2} \quad \| \text{ ker rotaan ristiin}$$

$$5(x+1) = 2(x+7)$$

$$5x+5 = 2x+14 \quad \| -2x$$

$$3x+5 = 14 \quad \| -5$$

$$3x = 9 \quad \| :3$$

$$x = 3$$

$$\text{c) } \frac{5x-1}{4} = \frac{7x-5}{5} \quad \| \text{ ker rotaan ristiin}$$

$$5(5x-1) = 4(7x-5)$$

$$25x-5 = 28x-20 \quad \| -28x$$

$$-3x-5 = -20 \quad \| +5$$

$$-3x = -15 \quad \| :(-3)$$

$$x = 5$$

$$\text{d) } \frac{3x-5}{6} = \frac{4x+2}{9} \quad \| \text{ ristiin}$$

$$9(3x-5) = 6(4x+2)$$

$$27x-45 = 24x+12 \quad \| -24x$$

$$3x-45 = 12 \quad \| +45$$

$$3x = 57 \quad \| :3$$

$$x = 19$$