

KOTITEHTÄVÄT 504,505

Sivu 94

504.

a) $4(2x + 1) = 6(x + 2)$

$$8x + 4 = 6x + 12 \quad || -6x$$

$$2x + 4 = 12 \quad || -4$$

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

$$x = 4$$

b) $5(3x + 2) = 4(3x + 4)$

$$15x + 10 = 12x + 16 \quad || -12x$$

$$3x + 10 = 16 \quad || -10$$

$$3x = 6 \quad || : 3$$

$$x = 2$$

c) $9x - 1 = 3(1 + 4x)$

$$9x - 1 = 3 + 12x \quad || -12x$$

$$-3x - 1 = 3 \quad || +1$$

$$-3x = 4 \quad || : (-3)$$

$$x = \frac{4}{-3} = -\frac{4}{3}$$

d) $-2(2x - 3) = 4(x + 3)$

$$-4x + 6 = 4x + 12 \quad || -4x$$

$$-8x + 6 = 12 \quad || -6$$

$$-8x = 6 \quad || : (-8)$$

$$x = \frac{6}{-8} = -\frac{6}{8} = -\frac{3}{4} = -0,75$$

505.

a) $3(5x + 1) + 2(1 - 6x) = 9$

$$15x + 3 + 2 - 12x = 9$$

$$3x + 5 = 9 \quad || -5$$

$$3x = 4 \quad || : 3$$

$$x = \frac{4}{3} \approx 1,3$$

b) $2(2x + 3) - 4(2x + 1) = 18$

$$4x + 6 - 8x - 4 = 18$$

$$-4x + 2 = 18 \quad || -2$$

$$-4x = 16 \quad ||: (-4)$$

$$x = -4$$

$$c) \quad 3(y-1) - 2(y+3) = y-9$$

$$3y-3-2y-6 = y-9$$

$$y-9 = y-9 \quad || -y$$

$$-9 = -9$$

Tämä on aina totta, eli ratkaisu on kaikki luvut.

$$d) \quad -5(3-2y) - 3(y-4) = 3$$

$$-15 + 10y - 3y + 12 = 3$$

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

$$7y = 6 \quad ||: 7$$

$$y = \frac{6}{7} = 0,86$$