

Equationssysteme

$$\textcircled{1} \quad \begin{array}{l} \text{I. } 3x + y = 6 \\ \text{II. } 6x - 2y = -8 \end{array}$$

$$\left. \begin{array}{l} \text{I. } 3x + y = 6 \\ \text{II. } 3x - y = -4 \end{array} \right\} \text{I.} + \text{II.}$$

$$\begin{array}{l} 6x = 2 \\ x = \frac{2}{6} = \underline{\underline{\frac{1}{3}}} \end{array}$$

$$\begin{array}{l} \text{I. } 3 \cdot \frac{1}{3} + y = 6 \\ y = 5 \end{array}$$

$$\begin{array}{l} \text{II. } 6 \cdot \frac{1}{3} - 2y = -8 \\ -2y = -8 - 2 = -10 \\ y = 5 \end{array}$$

$$\textcircled{2} \quad \begin{array}{l} 12m + 25p = 10000 - 160 \\ 21m + 14p = 10000 + 80 \end{array}$$

$$\begin{array}{l} \text{I. } 12m + 25p = 9840 \rightarrow m = \frac{9840 - 25p}{12} \\ \text{II. } 21m + 14p = 10080 \end{array}$$

$$\text{II. } 21 \cdot \frac{9840 - 25p}{12} + 14p = 10080 \quad /: 12$$

$$206640 - 525p + 168p = 120960$$

$$85680 = 357p \quad /: 357$$

$$240 = p$$

$$m = \frac{9840 - 25 \cdot 240}{12} = 320$$

$$\textcircled{3} \quad p + k = 200$$

$$(53 + p) + (27 + k) = \text{axonomasat}$$

$$\text{I. } p + k = 200$$

$$\text{II. } 53 + p = 27 + k$$

$$\underline{p + k = 200}$$

$$\underline{p - k = -26}$$

$$2p = 174$$

$$p = 87$$

$$87 + k = 200$$

$$k = 113$$

Eggenlethrediker

④ I. $250k + 450r = \text{bev}$

II. $250k \cdot 0,8 + 400r = \text{bev} - 750$

III. $500k + 225r = 6125$

$$\rightarrow k = \frac{6125 - 225r}{500}$$

I. es II. $250 \cdot \frac{6125 - 225r}{500} + 450r = 250 \cdot \frac{6125 - 225r}{500} \cdot 0,8 + 400r + 750$
 bte:

$$250(6125 - 225r) + 450r \cdot 500 = 250 \cdot 0,8(6125 - 225r) + 400 \cdot 500r + 750 \cdot 500$$

$$1531250 - 56250r + 225000r = 1225000 - 45000r + 200000r + 375000$$

$$168750r + 1531250 = 155000r + 1600000$$

$$13750r = 68750$$

$$r = 5$$

$$k = \frac{6125 - 225 \cdot 5}{500} = 10$$

10 db Érimi és 5 db romantikus könyv

⑤ I. $x + 3y = -5 \quad / \cdot -3$

II. $3x - 2y = 7$

I. $-3x - 9y = 15$
 II. $3x - 2y = 7$ } I + II

$$-11y = 22$$

$$y = -2$$

$$x + 3 \cdot (-2) = -5$$

$$x = -5 + 6$$

$$x = 1$$

Ellenőrzés!

⑥ $r + s_2 = 20$

$$\rightarrow r = 20 - s_2$$

$$3000r + 2000s_2 = 52000$$

$$3000(20 - s_2) + 2000s_2 = 52000$$

$$60000 - 3000s_2 + 2000s_2 = 52000$$

$$8000 = 1000s_2$$

$$s_2 = s_1$$

$$r = 20 - s_2 = 12$$

Ellenőrzés!

7

$$\boxed{\text{fehér}} \times \text{sor} \\ y \text{ ajtó}$$

$$\boxed{\text{fezete}} \times h \\ y - 5$$

$$\boxed{\text{barna}} \times +3 \\ y + 2$$

$$\text{fehér} : xy \text{ db}$$

$$\text{fezete} : (x-h)(y-5) \text{ db}$$

$$\text{barna} : (x+3)(y+2) \text{ db}$$

$$\text{fehér} - 360 = \text{fezete}$$

$$\text{fehér} + 228 = \text{barna}$$

$$I. xy - 360 = (x-h)(y-5)$$

$$II. xy + 228 = (x+3)(y+2)$$

$$xy - 360 = xy - hy - 5x + 20$$

$$xy + 228 = xy + 3y + 2x + 6$$

$$4y + 5x = 380 \quad / \cdot 3$$

$$-3y - 2x = -222 \quad / \cdot 4$$

$$12y + 15x = 1140$$

$$-12y - 8x = -888$$

$$7x = 252$$

$$x = 36$$

$$I. 36y - 360 = (36-h)(y-5)$$

$$36y - 360 = 32y - 160$$

$$4y = 200$$

$$y = 50$$

$$\text{barna ajtók száma} : (36+3)(50+2) = 39 \cdot 52 = 2028$$

8

$$10l + 14t = 180$$

$$10(l \cdot 1,25) + 14 \cdot (t + \frac{1}{3}t) = 232$$

$$10l + 14t = 180$$

$$\rightarrow l = \frac{180 - 14t}{10}$$

$$12,5l + 14 \cdot \frac{4}{3}t = 232$$

$$12,5 \cdot \frac{180 - 14t}{10} + \frac{56}{3}t = 232 \quad / \cdot 30$$

$$37,5(180 - 14t) + 560t = 232 \cdot 30$$

$$6750 - 525t + 560t = 6960$$

$$35t = 210$$

$$t = 6 \text{ kg}$$

$$l = \frac{180 - 14 \cdot 6}{10} = 9,6 \text{ kg}$$

$$\begin{array}{r} 8x - 2y = 10 \quad /:2 \\ \underline{5x + 4y = 22} \\ 16x - 4y = 20 \\ \underline{5x + 4y = 22} \\ 21x = 42 \\ x = 2 \end{array}$$

$$\begin{array}{r} 8 \cdot 2 - 2y = 10 \\ 16 - 2y = 10 \\ 6 = 2y \\ 3 = y \end{array}$$

10) 5 sor és 2 szék

$$\begin{array}{r} 5 \cdot 20 = (s-3) \cdot 30 - 50 \\ 20s = 30s - 90 - 50 \\ 140 = 10s \\ 14 = s \end{array}$$

14 sor volt

$$14 \cdot 20 = 280 \text{ emberrel}$$

11)

$$k + gy = 10$$

$$k = 10 - gy$$

$$\underline{2200k + 1400gy = 17600}$$

$$2200(10 - gy) + 1400gy = 17600$$

$$22000 - 2200gy + 1400gy = 17600$$

$$4400 = 800gy$$

$$5,5 = gy$$

$$k = 10 - 5,5 = 4,5$$

keszdió: 4,5 kg
gyümölcs: 5,5 kg

12)

$$3a + 14k = 99000$$

$$\underline{3a \cdot 0,8 + 14 \cdot k \cdot \frac{2}{3} = 70800}$$

$$3a + 14k = 99000 \quad /:2$$

$$\underline{2,4a + \frac{28}{3}k = 70800 \quad /:3}$$

$$-6a - 28k = -198000$$

$$\underline{7,2a + 28k = 212400}$$

$$1,2a = 14400$$

$$a = 12000$$

avetal ára: 12000 Ft

kék: 4500 Ft

$$3 \cdot 12000 + 14k = 99000$$

$$14k = 63000$$

$$k = 4500$$