

REŠITVE

ŽAPOSUTE V 2. CG/2CT

mal. 13 | str. 25

OBKROŽENE so največje enačbe. Povezani enačbi pa ekvivalentne, kar pomeni, da imata enačbi isto množico rešitev.

a) $(x-4)^2=0$
 $(x-4)(x-4)=0$
 $x_{1,2}=4$

b) $2x-3=7$
 $x-2x=10$
 $x=5$

c) $(x-5)(x+6)=0$
 $x_1=5 \quad x_2=-6$

č) $8(x-3)=0 \quad |:8$
 $x-3=0$
 $x=3$

d) $13x=65 \quad |:13$
 $x=5$

e) $x^2+x=30$
 $x^2+x-30=0$
 $(x+6)(x-5)=0$
 $x_1=-6 \quad x_2=5$

f) $2(x+6)=18 \quad |:2$
 $x+6=9$
 $x=3$

g) $x^2-16=0$
 $(x-4)(x+4)=0$
 $x_1=4 \quad x_2=-4$

Uporabljeni:

- $a^2-b^2=(a+b)(a-b)$
- Vietovo pravilo.

mal. 8 | str. 32

a) $3x^2-12=0$
 $3(x^2-4)=0 \quad |:3$
 $x^2-4=0$
 $(x+2)(x-2)=0$
 $x_1=-2, \quad x_2=2$

b) $a^2-3a-54=0$
 $(a-9)(a+6)=0$
 $a_1=9, \quad a_2=-6$

c) $y^2-121=0$
 $(y+11)(y-11)=0$
 $y_1=-11 \quad y_2=11$

č) $x^2-36=13$
 $x^2-49=0$
 $(x+7)(x-7)=0$
 $x_1=-7, \quad x_2=7$

d) $(x-3,5)(x+\frac{3}{4})=0$
 $x_1=3,5 \quad x_2=-\frac{3}{4}$

e) $3x^3=3x$
 $3x^3-3x=0$
 $3x(x^2-1)=0$
 $3x(x+1)(x-1)=0$
 $3x=0 \quad x+1=0 \quad x-1=0$
 $x_1=0 \quad x_2=-1 \quad x_3=1$

$$f) a^2 + 64 = 16a$$

$$a^2 - 16a + 64 = 0$$

$$(a-8)(a-8) = 0$$

$$\underline{\underline{a_{1,2} = 8}}$$

$$g) (b-2)(b+5) = 18$$

$$b^2 + 5b - 2b - 10 - 18 = 0$$

$$b^2 + 3b - 28 = 0$$

$$(b+7)(b-4) = 0$$

$$\underline{\underline{b_1 = -7}}$$

$$\underline{\underline{b_2 = 4}}$$

$$h) 3 + (x+1)^2 + x^2 = 2(5-x)$$

$$3 + x^2 + 2x + 1 + x^2 = 10 - 2x$$

$$2x^2 + 4x - 6 = 0 \quad |:2$$

$$x^2 + 2x - 3 = 0$$

$$(x+3)(x-1) = 0$$

$$\underline{\underline{x_1 = -3}} \quad \underline{\underline{x_2 = 1}}$$

$$i) (x+6)(x-6) = x^2 - 6x$$

$$\cancel{x^2} - 36 = \cancel{x^2} - 6x$$

$$6x = 36 \quad |:6$$

$$\underline{\underline{x = 6}}$$

$$\text{mal. 12} \mid \text{str. 34}$$

$$a) 2 - 2x = 1 - 4x + x - 3 - 2x$$

$$\cancel{-2x} + 4x - x + \cancel{2x} = 1 - 3 - 2$$

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

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

$$b) -9y + y + 3 - 1 = 9y + 8 + y$$

$$-8y - 10y = 8 - 2$$

$$-18y = 6 \quad | :(-18)$$

$$y = -\frac{6}{18}$$

$$\underline{\underline{y = -\frac{1}{3}}}$$

$$c) 3(x-4) - (3x-1) = \frac{1}{2}(5x+4) - 3,8$$

$$\cancel{3x} - 12 - \cancel{3x} + 1 = 6x + 4,8 - 3,8$$

$$-6x = 1 + 11$$

$$-6x = 12 \quad | :(-6)$$

$$\underline{\underline{x = -2}}$$

$$\check{c) 5t - (3t-4)(t-2) = t(1-3t) - 2(4t-3) - 3$$

$$5t - (3t^2 - 6t - 4t + 8) = t - 3t^2 - 8t + 6 - 3$$

$$\cancel{5t} - \cancel{3t^2} + 6t + 4t - 8 = \cancel{-3t^2} - 4t + 3$$

$$15t + 4t = 3 + 8$$

$$22t = 11 \quad |:22$$

$$t = \frac{11}{22}$$

$$\underline{\underline{t = \frac{1}{2}}}$$