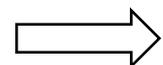


Liebe Klasse 8c,

verbessert zunächst die Hausaufgabe (S. 74/5) mit Hilfe der Lösung:

5. a)  $(x+7)(x-1) = (x-8)(x+1)$   
 $x^2 - x + 7x - 7 = x^2 + x - 8x - 8$  |  $-x^2$   
 $6x - 7 = -7x - 8$  |  $+7x$   
 $13x - 7 = -8$  |  $+7$   
 $13x = -1$  |  $: 13$   
 $x = -\frac{1}{13}$   $\mathbb{L} = \{-\frac{1}{13}\}$
- b)  $(2x-1)(x+2) - 0,5x = (x-4)(2x+3) - 5$   
 $2x^2 + 4x - x - 2 - 0,5x = 2x^2 + 3x - 8x - 12 - 5$  |  $-2x^2$   
 $2,5x - 2 = -5x - 17$  |  $+5x$   
 $7,5x - 2 = -17$  |  $+2$   
 $7,5x = -15$  |  $: 7,5$   
 $x = -2$   $\mathbb{L} = \{-2\}$
- c)  $(x+3)(x+2) + 5 = (x+1)(x+5) + 2x$   
 $x^2 + 2x + 3x + 6 + 5 = x^2 + 5x + x + 5 + 2x$  |  $-x^2$   
 $5x + 11 = 8x + 5$  |  $-8x$   
 $-3x + 11 = 5$  |  $-11$   
 $-3x = -6$  |  $: (-3)$   
 $x = 2$   $\mathbb{L} = \{2\}$
- d)  $3,5x + (4-3x)(x+1) = 0,5 - (3x+1)(x-2)$   
 $3,5x + 4x + 4 - 3x^2 - 3x = 0,5 - (3x^2 - 6x + x - 2)$   
 $3,5x + 4x + 4 - 3x^2 - 3x = 0,5 - 3x^2 + 6x - x + 2$  |  $+3x^2$   
 $4,5x + 4 = 5x + 2,5$  |  $-5x$   
 $-0,5x + 4 = 2,5$  |  $-4$   
 $-0,5x = -1,5$  |  $: (-0,5)$   
 $x = 3$   $\mathbb{L} = \{3\}$
- e)  $15x + (x-4)(x+9) = 8 + (x-2)(x+3)$   
 $15x + x^2 + 9x - 4x - 36 = 8 + x^2 + 3x - 2x - 6$  |  $-x^2$   
 $20x - 36 = x + 2$  |  $-x$   
 $19x - 36 = 2$  |  $+36$   
 $19x = 38$  |  $: 19$   
 $x = 2$   $\mathbb{L} = \{2\}$
- f)  $(5-2x)(x-3) - 6,5x = (1-2x)(x-1) - 12,5$   
 $5x - 15 - 2x^2 + 6x - 6,5x = x - 1 - 2x^2 + 2x - 12,5$  |  $+2x^2$   
 $4,5x - 15 = 3x - 13,5$  |  $-3x$   
 $1,5x - 15 = -13,5$  |  $+15$   
 $1,5x = 1,5$  |  $: 1,5$   
 $x = 1$   $\mathbb{L} = \{1\}$
- g)  $15x + x - 4(x+9) = 9 + x - 2(x+3)$   
 $15x + x - 4x - 36 = 9 + x - 2x - 6$   
 $12x - 36 = -x + 3$  |  $+x$   
 $13x - 36 = 3$  |  $+36$   
 $13x = 39$  |  $: 13$   
 $x = 3$   $\mathbb{L} = \{3\}$
- h)  $(5-2x)x - 1 - 6,5x = 1 - 2x(x-1) - 12,5$   
 $5x - 2x^2 - 1 - 6,5x = 1 - 2x^2 + 2x - 12,5$  |  $+2x^2$   
 $-1,5x - 1 = -11,5 + 2x$  |  $-2x$   
 $-3,5x - 1 = -11,5$  |  $+1$   
 $-3,5x = -10,5$  |  $: (-3,5)$   
 $x = 3$   $\mathbb{L} = \{3\}$
- i)  $(3x+2)^2 - (2x-1)^2 = -5x(1-x) - 18$   
 $9x^2 + 12x + 4 - (4x^2 - 4x + 1) = -5x + 5x^2 - 18$   
 $9x^2 + 12x + 4 - 4x^2 + 4x - 1 = -5x + 5x^2 - 18$   
 $5x^2 + 16x + 3 = -5x + 5x^2 - 18$  |  $-5x^2$   
 $16x + 3 = -5x - 18$  |  $+5x$   
 $21x + 3 = -18$  |  $-3$   
 $21x = -21$  |  $: 21$   
 $x = -1$   $\mathbb{L} = \{-1\}$
- k)  $(x-0,3)^2 + (x+0,4)^2 = 2(x-0,2)(x+0,2) - 0,02$   
 $x^2 - 0,6x + 0,09 + x^2 + 0,8x + 0,16 = 2(x^2 - 0,04) - 0,02$   
 $2x^2 + 0,2x + 0,25 = 2x^2 - 0,08 - 0,02$  |  $-2x^2$   
 $0,2x + 0,25 = -0,1$  |  $-0,25$   
 $0,2x = -0,35$  |  $: 0,2$   
 $x = -1,75$   $\mathbb{L} = \{-1,75\}$
- l)  $-(0,5-x)^2 + (x-0,5)^2 = 6 - 3(x-2)$   
 $-(0,25 - x + x^2) + x^2 - x + 0,25 = 6 - 3x + 6$   
 $-0,25 + x - x^2 + x^2 - x + 0,25 = 12 - 3x$   
 $0 = 12 - 3x$  |  $+3x$   
 $3x = 12$  |  $: 3$   
 $x = 4$   $\mathbb{L} = \{4\}$
- m)  $(0,4x+0,5)(0,4x-0,5) - 4(\frac{1}{5}x+2)^2 = -0,5^2$   
 $0,16x^2 - 0,25 - 4(\frac{1}{25}x^2 - \frac{4}{5}x + 4) = -0,25$   
 $0,16x^2 - 0,25 - \frac{4}{25}x^2 - \frac{16}{5}x - 16 = -0,25$  |  $+0,25$   
 $-\frac{16}{5}x - 16 = 0$  |  $+16$   
 $-\frac{16}{5}x = 16$  |  $: (-\frac{16}{5})$   
 $x = -5$   $\mathbb{L} = \{-5\}$



**Arbeitsauftrag:**

Löse die Aufgaben im Arbeitsheft S. 18 (Gleichungen)

Bleibt gesund und munter,

liebe Grüße

Frau Wollny