**Übungen: Lineare Gleichungen**

Lösen Sie die folgenden Gleichungen über der Grundmenge R!

1.

1. 3x + 5 = 23
2. 8x - 12 = 28
3. 10y + 23 = 3
4. 11 - 5z = 26
5. 4z - 9 = -2
6. 12y + 15 = 19
7. 80 - 12t = 38
8. 16 = 7z + 30

# 2.

1. 7x + 3 = 5x + 12
2. 6z + 8 = 11z - 7
3. 9y + 4 = 3y - 10
4. 100 - 7x = 13x
5. 0,9x + 5 = 1,2x - 3,4
6. 4,2t - 7 = 11 - 3,3t
7. 0,7y + 2,8 = 0,55y - 1,7
8. 0,5 - 1,7z = 0,74 + 2,3z

# 4.

1. 8(3 + 2z) - 3z = 5z - 8
2. 5(y - 0,2) = 1,6(3y + 0,5)
3. 4(9w - 11) - 12(3w - 4) = 4

6. 7.

1. 2x(x - 3) = x(2x + 4) - 80 a) (y + 2)(y - 8) = (y - 2)² - 12
2. x(x + 3) = x² + 4(x - 3) b) (x - 1)² = (x - 3)(x + 2)
3. (z - 2)(z + 3) = z² + 6 c) (x + 5)² = (x - 3)² + 8x
4. (y + 3)(y + 5) = y(y + 11) d) (x - 2)(x + 2) = (x + 6)²
5. (x - 1)(x + 1) = (x + 3)(x - 2) e) (3z - 1)² = (3z + 4)(3z – 5)
6. (y + 3)(y - 4) = y(y - 5) + 2(y + 6) f) (2y + 3)² = (5 - 2y)²
7. (2z + 5)(z - 3) = (z - 6)(2z - 2) - 1 g) (5z - 4)² = (5z + 4)² - 80z
8. (x + 5)(x - 3) = (x - 4)(x + 6) h) 2x - (2 - 7x)² = (1 - 7x)(1 + 7x)