

## Einfache quadratische Gleichungen

1. a)  $x^2 + 6x + 9 = 0$       b)  $x^2 - 10x + 25 = 0$       c)  $x^2 + 12x + 36 = 0$   
d)  $x^2 - 2x + 1 = 0$       e)  $x^2 - 20x + 100 = 0$       f)  $x^2 + 4x + 4 = 0$
2. a)  $x^2 + 4x = 0$       b)  $x^2 - 9x = 0$       c)  $x^2 + 12x = 0$   
d)  $x^2 - 14x = 0$       e)  $x^2 + 6x = 0$       f)  $x^2 + 22x = 0$
3. a)  $x^2 + 10x + 16 = 0$       b)  $x^2 - 2x - 3 = 0$       c)  $x^2 + 8x + 7 = 0$   
d)  $x^2 - 8x - 33 = 0$       e)  $x^2 + 14x + 48 = 0$       f)  $x^2 - 16x + 15 = 0$
4. a)  $2x^2 - 16x + 32 = 0$       b)  $3x^2 + 12x + 15 = 0$       c)  $4x^2 - 8x - 32 = 0$   
d)  $3x^2 + 12x - 15 = 0$       e)  $0,4x^2 - 4x - 4,4 = 0$       f)  $0,5x^2 - 0,5x - 0,375 = 0$
5. a)  $x^2 - \frac{1}{2}x + \frac{5}{8} = 0$       b)  $x^2 + \frac{6}{5}x + \frac{1}{5} = 0$       c)  $\frac{1}{2}x^2 - \frac{7}{10}x + \frac{1}{4} = 0$   
d)  $\frac{1}{2}x^2 - \frac{1}{3}x - \frac{1}{6} = 0$       e)  $\frac{1}{3}x^2 + 2x - \frac{16}{3} = 0$       f)  $\frac{1}{2}x^2 - 2x - \frac{5}{2} = 0$
6. a)  $x^2 - 5x + 6 = 0$       b)  $x^2 - x - 6 = 0$       c)  $x^2 + 7x + 14 = 0$   
d)  $x^2 + 4x - 12 = 0$       e)  $x^2 + 3x - 88 = 0$       f)  $x^2 - 25x + 150 = 0$
7. a)  $(x + 3)(x - 4) = 0$       b)  $(2x + 8)(3x - 2) = 0$       c)  $(5x + 1)(2x - 4) = 0$

## Einfache quadratische Gleichungen – Lösungen

1. a)  $x^2 + 6x + 9 = 0$

$L = \{-3\}$

d)  $x^2 - 2x + 1 = 0$

$L = \{1\}$

b)  $x^2 - 10x + 25 = 0$

$L = \{5\}$

e)  $x^2 - 20x + 100 = 0$

$L = \{10\}$

c)  $x^2 + 12x + 36 = 0$

$L = \{-6\}$

f)  $x^2 + 4x + 4 = 0$

$L = \{-2\}$

2. a)  $x^2 + 4x = 0$

$L = \{0; -4\}$

d)  $x^2 - 14x = 0$

$L = \{0; 14\}$

b)  $x^2 - 9x = 0$

$L = \{0; 9\}$

e)  $x^2 + 6x = 0$

$L = \{0; -6\}$

c)  $x^2 + 12x = 0$

$L = \{0; -12\}$

f)  $x^2 + 22x = 0$

$L = \{0; -22\}$

3. a)  $x^2 + 10x + 16 = 0$

$L = \{-8; -2\}$

d)  $x^2 - 8x - 33 = 0$

$L = \{-3; 11\}$

b)  $x^2 - 2x - 3 = 0$

$L = \{-1; 3\}$

e)  $x^2 + 14x + 48 = 0$

$L = \{-8; -6\}$

c)  $x^2 + 8x + 7 = 0$

$L = \{-7; -1\}$

f)  $x^2 - 16x + 15 = 0$

$L = \{1; 15\}$

4. a)  $2x^2 - 16x + 32 = 0$

$L = \{4\}$

d)  $3x^2 + 12x - 15 = 0$

$L = \{-5; 1\}$

b)  $3x^2 + 12x + 15 = 0$

$L = \{\}$

e)  $0,4x^2 - 4x - 4,4 = 0$

$L = \{-1; 11\}$

c)  $4x^2 - 8x - 32 = 0$

$L = \{4\}$

f)  $0,5x^2 - 0,5x - 0,375 = 0$

$L = \{-0,5; 1,5\}$

5. a)  $x^2 - \frac{1}{2}x + \frac{5}{8} = 0$

$L = \{\}$

d)  $\frac{1}{2}x^2 - \frac{1}{3}x - \frac{1}{6} = 0$

$L = \left\{-\frac{1}{3}; 1\right\}$

b)  $x^2 + \frac{6}{5}x + \frac{1}{5} = 0$

$L = \{-1; -0,2\}$

e)  $\frac{1}{3}x^2 + 2x - \frac{16}{3} = 0$

$L = \{-8; 2\}$

c)  $\frac{1}{2}x^2 - \frac{7}{10}x + \frac{1}{4} = 0$

$L = \{\}$

f)  $\frac{1}{2}x^2 - 2x - \frac{5}{2} = 0$

$L = \{-1; 5\}$

6. a)  $x^2 - 5x + 6 = 0$

$L = \{2; 3\}$

d)  $x^2 + 4x - 12 = 0$

$L = \{-6; 2\}$

b)  $x^2 - x - 6 = 0$

$L = \{-2; 3\}$

e)  $x^2 + 3x - 88 = 0$

$L = \{-11; 8\}$

c)  $x^2 + 7x + 14 = 0$

$L = \{\}$

f)  $x^2 - 25x + 150 = 0$

$L = \{10; 15\}$

7. a)  $(x + 3)(x - 4) = 0$

$L = \{-3; 4\}$

d)  $(x + 9)(3x - 12) = 0$

$L = \{-9; 4\}$

b)  $(2x + 8)(3x - 2) = 0$

$L = \left\{-4; \frac{2}{3}\right\}$

e)  $(5x - 15)(4x - 20) = 0$

$L = \{3; 5\}$

c)  $(5x + 1)(2x - 4) = 0$

$L = \{-0,2; 2\}$

f)  $(3x - 18)(7x + 14) = 0$

$L = \{6; -2\}$