

## Reinquadratische Gleichungen

1. a) $x^2 = 64$	b) $x^2 = 25$	c) $x^2 = 1$	d) $x^2 = 324$
e) $x^2 = 400$	f) $x^2 = 225$	g) $x^2 = 900$	h) $x^2 = 1$

2. a) $x^2 = 0,16$	b) $x^2 = 2,25$	c) $x^2 = 1,44$	d) $x^2 = 0,01$
e) $x^2 = \frac{1}{16}$	f) $x^2 = \frac{225}{361}$	g) $x^2 = \frac{36}{289}$	h) $x^2 = \frac{441}{484}$

3. a) $x^2 = 15$	b) $x^2 = 80$	c) $x^2 = 800$	d) $x^2 = 4,5$
e) $x^2 = 0,3$	f) $x^2 = 2,1$	g) $x^2 = \frac{3}{7}$	h) $x^2 = \frac{5}{3}$

4. a) $2x^2 = 98$	b) $3x^2 = 108$	c) $5x^2 = 125$	d) $9x^2 = 36$
e) $\frac{1}{2}x^2 = 32$	f) $\frac{1}{3}x^2 = 3$	g) $2,4x^2 = 9,6$	h) $0,1x^2 = 25,6$

5. a) $4x^2 - 100 = 0$	b) $5x^2 + 80 = 0$	c) $5x^2 - 245 = 0$	d) $2x^2 - 25 = 0$
e) $3x^2 - 14 = 0$	f) $8x^2 + 16 = 0$	g) $9x^2 - 81 = 0$	h) $0,3x^2 - 2,7 = 0$

6. a) $(4x - 1)^2 = (x - 4)^2$	b) $(x + 3)(x - 3) = (6 - x)(6 + x) + 5$
c) $(5x + 2)^2 = (3x + 4)^2 + 4(1 - x)$	d) $(4x - 3)^2 = (5x - 2)^2 - 4(x + 1)$
e) $(x + 5)(x - 5) = (2 - x)(2 + x) + 3$	f) $(7x - 6)(5x - 2) = (6x - 5)^2 - (-16x - 22)$

## Reinquadratische Gleichungen – Lösungen

1. a)  $x^2 = 64$   
 $L = \{ 8; -8 \}$   
 e)  $x^2 = 400$   
 $L = \{ 20; -20 \}$
- b)  $x^2 = 25$   
 $L = \{ 5; -5 \}$   
 f)  $x^2 = 225$   
 $L = \{ 15; -15 \}$
- c)  $x^2 = 1$   
 $L = \{ 1; -1 \}$   
 g)  $x^2 = 900$   
 $L = \{ 30; -30 \}$
- d)  $x^2 = 324$   
 $L = \{ 18; -18 \}$   
 h)  $x^2 = 1$   
 $L = \{ 1; -1 \}$
2. a)  $x^2 = 0,16$   
 $L = \{ 0,4; -0,4 \}$   
 e)  $x^2 = \frac{1}{16}$   
 $L = \left\{ \frac{1}{4}; -\frac{1}{4} \right\}$
- b)  $x^2 = 2,25$   
 $L = \{ 1,5; -1,5 \}$   
 f)  $x^2 = \frac{225}{361}$   
 $L = \left\{ \frac{15}{19}; -\frac{15}{19} \right\}$
- c)  $x^2 = 1,44$   
 $L = \{ 1,2; -1,2 \}$   
 g)  $x^2 = \frac{36}{289}$   
 $L = \left\{ \frac{6}{17}; -\frac{6}{17} \right\}$
- d)  $x^2 = 0,01$   
 $L = \{ 0,1; -0,1 \}$   
 h)  $x^2 = \frac{441}{484}$   
 $L = \left\{ \frac{21}{22}; -\frac{21}{22} \right\}$
3. a)  $x^2 = 15$   
 $L = \{ \sqrt{15}; -\sqrt{15} \}$   
 e)  $x^2 = 0,3$   
 $L = \{ \sqrt{0,3}; -\sqrt{0,3} \}$
- b)  $x^2 = 80$   
 $L = \{ \sqrt{80}; -\sqrt{80} \}$   
 f)  $x^2 = 2,1$   
 $L = \{ \sqrt{2,1}; -\sqrt{2,1} \}$
- c)  $x^2 = 800$   
 $L = \{ \sqrt{800}; -\sqrt{800} \}$   
 g)  $x^2 = \frac{3}{7}$   
 $L = \left\{ \sqrt{\frac{3}{7}}; -\sqrt{\frac{3}{7}} \right\}$
- d)  $x^2 = 4,5$   
 $L = \{ \sqrt{4,5}; -\sqrt{4,5} \}$   
 h)  $x^2 = \frac{5}{3}$   
 $L = \left\{ \sqrt{\frac{5}{3}}; -\sqrt{\frac{5}{3}} \right\}$
4. a)  $2x^2 = 98$   
 $L = \{ 7; -7 \}$   
 e)  $\frac{1}{2}x^2 = 32$   
 $L = \{ 8; -8 \}$
- b)  $3x^2 = 108$   
 $L = \{ 6; -6 \}$   
 f)  $\frac{1}{3}x^2 = 3$   
 $L = \{ 3; -3 \}$
- c)  $5x^2 = 125$   
 $L = \{ 5; -5 \}$   
 g)  $2,4x^2 = 9,6$   
 $L = \{ 2; -2 \}$
- d)  $9x^2 = 36$   
 $L = \{ 2; -2 \}$   
 h)  $0,1x^2 = 25,6$   
 $L = \{ 16; -16 \}$
5. a)  $4x^2 - 100 = 0$   
 $L = \{ 5; -5 \}$   
 e)  $3x^2 - 14 = 0$   
 $L = \left\{ \sqrt{\frac{14}{3}}; -\sqrt{\frac{14}{3}} \right\}$
- b)  $5x^2 + 80 = 0$   
 $L = \{ \}$   
 f)  $8x^2 + 16 = 0$   
 $L = \{ \}$
- c)  $5x^2 - 245 = 0$   
 $L = \{ 7; -7 \}$   
 g)  $9x^2 - 81 = 0$   
 $L = \{ 3; -3 \}$
- d)  $2x^2 - 25 = 0$   
 $L = \{ \sqrt{12,5}; -\sqrt{12,5} \}$   
 h)  $0,3x^2 - 2,7 = 0$   
 $L = \{ 3; -3 \}$
6. a)  $(4x - 1)^2 = (x - 4)^2$   
 $L = \{ 1; -1 \}$   
 c)  $(5x + 2)^2 = (3x + 4)^2 + 4(1 - x)$   
 $L = \{ 1; -1 \}$   
 e)  $(x + 5)(x - 5) = (2 - x)(2 + x) + 3$   
 $L = \{ 4; -4 \}$
- b)  $(x + 3)(x - 3) = (6 - x)(6 + x) + 5$   
 $L = \{ 5; -5 \}$   
 d)  $(4x - 3)^2 = (5x - 2)^2 - 4(x + 1)$   
 $L = \{ 1; -1 \}$   
 f)  $(7x - 6)(5x - 2) = (6x - 5)^2 - (-16x - 22)$   
 $L = \{ \}$