

Mathematik 11. Jg.	Quadratische Gleichungen	ÜB 01
Name:		

1. Bestimme die Lösungsmenge der folgenden quadratischen Gleichungen durch „Radizieren“!

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|----|-----------------------------------|--|
| a) | $x^2 = 144$ | $IL = \{12; -12\}$ |
| b) | $x^2 = 64$ | $IL = \{8; -8\}$ |
| c) | $7x^2 = 252$ | $IL = \{6; -6\}$ |
| d) | $0,5x^2 = 128$ | $IL = \{16; -16\}$ |
| e) | $4x^2 = 0$ | $IL = \{0\}$ |
| f) | $x^2 = 324$ | $IL = \{18; -18\}$ |
| g) | $2x^2 = 6$ | $IL = \{\approx 1,732; \approx -1,732\}$ |
| h) | $3x^2 = -12$ | $IL = \{ \}, \text{Radikand negativ!}$ |
| i) | $5x^2 - 125 = 0$ | $IL = \{5; -5\}$ |
| j) | $0 = 2x^2 - 162$ | $IL = \{9; -9\}$ |
| k) | $3x^2 = 48$ | $IL = \{4; -4\}$ |
| l) | $\frac{2x^2}{18} = 576$ | $IL = \{72; -72\}$ |
| m) | $\frac{8}{9}x^2 = \frac{72}{169}$ | $IL = \{\frac{9}{13}; -\frac{9}{13}\}$ |

2. Faktorisiere zuerst, bestimme dann die Lösungsmenge mit Hilfe der Produktregel!

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|----|----------------------|---------------------|
| a) | $x^2 + 3x = 0$ | $IL = \{0; -3\}$ |
| b) | $x^2 - 5x = 0$ | $IL = \{0; 5\}$ |
| c) | $x^2 + 2,4x = 0$ | $IL = \{0; -2,4\}$ |
| d) | $x^2 - 9,25x = 0$ | $IL = \{0; 9,25\}$ |
| e) | $3x^2 + 15x = 0$ | $IL = \{0; -5\}$ |
| f) | $-2x^2 + 2x = 0$ | $IL = \{0; 1\}$ |
| g) | $-0,5x^2 - 2,4x = 0$ | $IL = \{0; -4,8\}$ |
| h) | $4x^2 + 13x = 0$ | $IL = \{0; -3,25\}$ |
| i) | $5x^2 = -20x$ | $IL = \{0; -4\}$ |
| k) | $-x^2 = -2x$ | $IL = \{0; 2\}$ |
| l) | $-0,96x = 0,8x^2$ | $IL = \{0; -1,2\}$ |
| m) | $1,75x = -7x^2$ | $IL = \{0; -0,25\}$ |