

| | | | | |
|----|--------------------|-----------------------|---------------------------------|----------------------------|
| 1 | $x^2 - 64 = 0$ | $(x - 144)^2 = 0$ | $(x-2)(x+3) = 0$ | $x^3 + 27 = 0$ |
| 2 | $x^2 + 11 = 11$ | $x^2 - 2x = 0$ | $x(x+3) = 0$ | $2x - x = 0$ |
| 3 | $4x^2 - 4 = 0$ | $4x^2 - 4x + 1 = 0$ | $(3x - 6)(2 - x) = 0$ | $0,5x^2 = 72$ |
| 4 | $7x = 7x-1$ | $5x^2 - 10x + 5 = 0$ | $(\frac{1}{3}x + 2)(2 - x) = 0$ | $(5 - 2x)^2 = 0$ |
| 5 | $x^2 - 169 = 0$ | $(x+144)^2 = 0$ | $2(x+5)(5+x) = 0$ | $x^2 + 196 = 0$ |
| 6 | $4x^2 - 1 = 0$ | $16 - x^2 = 0$ | $2(x - 1)^2 = 0$ | $\frac{1}{2}(x + 2)^2 = 0$ |
| 7 | $x^2 - 4 = 5$ | $x^2 + 4 = 4$ | $123x^2 + 5 = 0$ | $3x^2 - 3 = 0$ |
| 8 | $16x^2 - 4 = 0$ | $x^2 + 2,5x - 27 = 0$ | $5(x + 2)^2 = 0$ | $x^2 - x - 6 = 0$ |
| 9 | $x^2 + 2x + 1 = 0$ | $2(x - 2)^2 = 0$ | $121 - x^2 = 0$ | $\frac{1}{2}(x + 2)^2 = 0$ |
| 10 | $4 - x^2 = 0$ | $3(x + 1)^2 = 0$ | $\frac{1}{2}(x - 1)^2 = 0$ | $144 + x^2 = 0$ |
| 11 | $2(x + 1)^2 = 0$ | $123x^2 + 5 = 0$ | $x^2 + 9 = 0$ | $x^2 + 4 = 4$ |
| 12 | $x^2 - 6x + 5 = 0$ | $2x^2 - 4 = 14$ | $x^2 - 4 = 5$ | $x^2 + 2bx - 3b^2 = 0$ |

Sortiere die Gleichungen nach:

- | | | | | |
|----|--|---|--------------------------------------|---|
| 1) | Quadratische Gleichung | - | keine quadratische Gleichung | |
| 2) | lösbare Gleichung | - | (noch) unlösbare Gleichung | |
| 3) | rein quadratischen Gleichung | - | Gleichung mit zwei gleichen Faktoren | - |
| | gemischt quadratische Gleichung (Gleichung mit zwei ungleichen Faktoren) | | | |

Bestimme die Lösungsmengen!

Lösungen

| | | | | | | | | |
|----|-------|-----------|----|-------|----|---------|----|---------|
| 1 | 3a | +8 -8 | 3b | 144 | 3c | 2 -3 | 1b | -3 |
| 2 | 3a | 0 | 3c | 0 2 | 3c | 0 -3 | 1b | 0 |
| 3 | 3a | +1 -1 | 3b | 0,5 | 3b | 2 | 3a | +12 -12 |
| 4 | 1b 2b | leer | 3b | 1 | 3c | -6 2 | 3b | 2,5 |
| 5 | 3a | +13 -13 | 3b | -144 | 3b | -5 | 2b | leer |
| 6 | 3a | +0,5 -0,5 | 3a | +4 -4 | 3b | 1 | 3b | -2 |
| 7 | 3a | +1 -1 | 3a | 0 | 2b | leer | 3a | +1 -1 |
| 8 | 3a | +0,5 -0,5 | 3c | | 3b | -2 | 3c | |
| 9 | 3b | -1 | 3b | 2 | 3a | +11 -11 | 3b | -2 |
| 10 | 3a | +2 -2 | 3b | -1 | 3b | 1 | 2b | leer |
| 11 | 3b | -1 | 2b | leer | 2b | leer | 3a | 0 |
| 12 | 3c | | 3a | +3 -3 | 3a | +1 -1 | 3c | |