**Gleichungen mit Wurzeln lösen II**

Löse folgende Gleichungen und schreibe die Lösungsmenge.

|  |  |
| --- | --- |
| 1) – 2 = |²  ( – 2)² = y + 10 |T  y – 6 -4 + 4 = y + 10 |T  y – 2 -4 = y + 10 |-y+2  -4 = 12 |²  16(y – 6) = 144 |:16  y – 6 = 9 |+6  y = 15  L = {15} | 2) = |²  ()² = a + 20 |T  a + 4 + 4 = a + 20 |-a-4  4 = 16 |:4  = 4 |²  a = 16  L = {16} |
| 3) = 10 - |²  b – 10 = (10 - )² |T  b–10 = 100-20+b+10 |T  b – 10 = 110 + b - 20 |-b  -10 = 110 - 20 |-110  -120 = - 20 |:(-20)  6 = |²  36 = b + 10 |-10  26 = b  L = {26} | 4) + 2 = |²  ( + 2)² = c + 7 |T  c – 5 + 4+ 4 = c + 7 |T  c – 1 +4 = c + 7 |-c+1  4 = 8 |²  16(c - 5) = 8 |T  16c – 80 = 8 |+80  16c = 88 |:16  c = 5,5  L = {5,5} |
| 5) + 3 = |²  ( + 3)² = d + 5 |T  d-10+6 +9 = d + 5 |-d+1  6 = 6 |:6  = 1 |²  d – 10 = 1 |+10  d = 11  L = {11} | 6) = – 1 |²  w – 3 = ( – 1)² |T  w – 3 = w+2 -2 + 1 |T  w – 3 = w + 3 -2 |-w-3  -6 = -2 |:(-2)  3 = |²  9 = w + 2 |-2  7 = w  L = {7} |
| 7) = 7 - |²  x + 10 = (7 - )² |T  x + 10 = 49 -14 +x+10 |T  x + 10 = 59 + x -14 |-x  10 = 59 - 14 |-59  -49 = -14 |:(-14)  3,5 = |²  12,25 = x + 10 |-10  2,25 = x  L = {2,25} | 8) + 1 = |²  ( + 1)² = e + 2 |T  e + 7 + 2 + 1 = e + 2 |-e  8 + 2 = 2 |-8  2 = - 6 |:2  = -3 |²  e + 7 = 9 |-7  e = 2  L = {2} |

|  |  |
| --- | --- |
| 9) – 3 = |²  ( – 3)² = z + 11 |T  z - 4 - 6 + 9 = z + 11 |T  z + 5 - 6 = z + 11 |-z-5  - 6 = 6 |:(-6)  = -1 |²  z – 4 = 1 |+4  z = 5  L = {5} | 10) = 3 + |²  b + 5 = (3 + )² |T  b+5 = 9 + 6 + b + 32 |-b  5 = 41 + 6 |-41  -36 = 6 |:6  -6 = |²  36 = b + 32 |-32  4 = b  L = {4} |