**Gleichungen mit Wurzeln lösen I**

Löse folgende Gleichungen und schreibe die Lösungsmenge.

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| --- | --- |
| 1) = 10 |²  a + 4 = 100 |-4  a = 96  L = {96} | 2) = 4 |-2  = 2 |²  a + 1 = 4 |-1  a = 3  L = {3} |
| 3) = 6 |²  a + 30 = 36(a – 5) |T  a + 30 = 36a – 180 |-a  30 = 35a – 180 |+180  210 = 35a |:35  6 = a  L = {6} | 4) 4 = |²  16(a - 7) = a + 8 |T  16a – 112 = a + 8 |-a  15a – 112 = 8 |+112  15a = 120 |:15  a = 8  L = {8} |
| 5) = 2 |²  a + 17 = 4(a – 10) |T  a + 17 = 4a – 40 |-a  17 = 3a – 40 |+40  57 = 3a |:3  19 = a  L = {19} | 6) 4 = |²  16(a – 20) = a – 5 |T  16a – 320 = a – 5 |-a  15a – 320 = - 5 |+320  15a = 315 |:15  a = 21  L = {21} |
| 7) = 2 |²  a + 22 = 4(a – 5) |T  a + 22 = 4a – 20 |-a  22 = 3a – 20 |+20  42 = 3a |:3  14 = a  L = {14} | 8) = 2 |²  a – 9 = 4(a + 18) |T  a – 9 = 4a + 72 |-a  – 9 = 3a + 72 |-72  -81 = 3a |:3  -27 = a  L = {-27} |
| 9) – 1 = |²  ( – 1)² = ()² |T  a + 7 -2 + 1 = a + 2 |-a-8  -2 = -6 |:(-2)  = 3 |²  a + 7 = 9 |-7  a = 2  L = {2} | 10) = a – 15 |²  a² - 15 = a² - 30a + 225  - 15 = - 30a + 225 |+30a  30a – 15 = 225 |+15  30a = 240 |:30  a = 8  L = {8} |