



# Real Square Roots

## 1 Why

We want to solve equations with squares.

Let  $b$  be any real number. We want to find  $a$  to solve

$$a^2 = b.$$

We call  $a$

**Proposition 1.** *A real number has two square roots.*

Despite the following proposition, we still speak of the *square root function* which associates a real number to its positive square root.

## 2 Why

As with natural numbers, we denote the square root of  $x$  by  $\sqrt{x}$ .