



Real Square Roots

1 Why

We want to solve equations with squares.

2 Definition

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

$$a^2 = b.$$

We call a solution a a *square root* of b .

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

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

3 Why

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