

## 0.1 Dirac delta

### 0.1.1 Kronecker delta

The function is:  $\delta_{ij}$

If  $i = j$  this is 1. Otherwise it is 0.

We introduced this in linear algebra.

### 0.1.2 Dirac delta

The Dirac delta replaces the Kronecker delta for continuous functions.

That is, we want:

- $\delta(x \neq 0) = 0$
- $\delta(0) = +\infty$
- $\int_{-\infty}^{\infty} \delta(x) dx = 1$