Consider terms of this shape, where B is some variable binder.

$$B\ x \bullet (B\ y \bullet \ldots\ B\ x \bullet \ldots)$$

any x's are bound

any x's are bound

uncurried

$$plus : \mathbb{N} \times \mathbb{N} \to \mathbb{N}$$

so. e.g. $plus\ (4,5) = 9$

Curried

$$plus' : \mathbb{N} \to \mathbb{N} \to \mathbb{N}$$

so e.g. $(plus'(4)) : \mathbb{N} \to \mathbb{N}$ this is partial application

and $(plus'(4))(5) = 9$

More briefly: $plus'(4)(5) = 9$

$plus'\ 4\ 5 = 9$

we usually drop parentheses for curried functions

first or const

$$(\lambda x \to \lambda y \to x)\ 5$$

$$\equiv \lambda y \to 5$$