Functions versus Constants

Calling a function:

\( \text{sqrt} \ 25 \)
Functions versus Constants

Calling a function:

$$\texttt{(+ \ (\text{sqrt } 25) \ 1)} \rightarrow \texttt{(+) (5) (1)} \rightarrow 6$$

Using a constant:

$$\texttt{pi}$$
Functions versus Constants

Calling a function:

\[(\texttt{sqrt 25}) \rightarrow 5\]

\[(+ (\texttt{sqrt 25}) 1) \rightarrow (+ 5 1) \rightarrow 6\]

Using a constant:

\[
\texttt{pi} \rightarrow \texttt{#i3.14}
\]

\[
(+ 1 \texttt{pi}) \rightarrow (+ 1 \texttt{#i3.14}) \rightarrow \texttt{#i4.14}
\]
Defining Constants

Use `define` and `name` without parentheses around `name` to define a constant:

```
(define cake 4)
```
Defining Constants

Use `define` and `name` without parentheses around `name` to define a constant:

```
(define cake 4)
```

No parenthesis after `define`, so `cake` is a constant.

A parenthesis after `define`, so `next` is a function.

```
(define (next x) (+ x 1))
```
Defining Constants

Use `define` and `name` without parentheses around `name` to define a constant:

\[(\text{define } \text{cake} \ 4)\]

Use the `name` without parentheses:

\((+ \ 1 \ \text{cake})\)

\[\rightarrow (+ \ 1 \ 4)\]

\[\rightarrow 5\]
Defining Constants

Use `define` and `name` without parentheses around `name` to define a constant:

```
(define ~u (rotate 180 U))
```

Use the `name` without parentheses:

```
(beside ~u ~u)
```

→→ (beside U U U)

→ U U