Equalities

- Variable
- expr

solve for

solved for
- base (num)
- constructed (→)

UNIFICATION

(w L) - Ω

Set of constraints

Each constraint is an eq.

Each eq. has two terms

Each term is one of

Unify · set (constraints) →

Substitution θ

{ mapping [• solve for • → T+]

$t_1 = t_2$ $\ominus$

↳ variable or expr

if t_1 in $\ominus$ occurs check

add $\ominus(t_1) = t_2$ to const

else add $t_1 = t_2$ to $\ominus$ and replace t_1 in $\ominus$ w/ t_2

base

if t_2 is base

if same base as t_1 ignore

else error

if t_2 is constructed — error ←

if t_2 is "solve for" push $t_2 = t_1$ onto constraints

Constr

$(t_{1\ell} \to t_{2\ell})$

if t_2 is base — error

if t_2 is constructed $(t_{1r} \to t_{2r})$

push $t_{1\ell} = t_{1r}$

$t_{2\ell} = t_{2r}$

PRINCIPAL TYPES

for

```
id = (λ (x : _) : _ x)   : [[1 x]] → [[1 x]]
                            'a → 'a
in (if (id true)          'a = bool
       (id 5)             'a = num
       (id 6))            'a = num
```