

[2.15] Use change of variable in limits of *when()* functions

The CAS may have problems evaluating limits of expressions involving *when()* functions. For example, this limit will not be evaluated:

```
limit(when(x=0,1,sin(x)/x),x,0)
```

If the limit is expressed as

```
limit(when(X=k,L,f(X)),X,0)
```

then substitute $x-1$ for X to obtain

```
limit(when(x-1=k,L,f(x-1)),x,1)
```

The example above becomes

```
limit(when(x-1=0,1,sin(x-1)/(x-1)),x,1)
```

which returns the correct limit.

(Credit to Martin Daveluy)