Theorem The standard uniform distribution is a special case of the uniform distribution when $a = 0$ and $b = 1$.

Proof The uniform distribution has probability density function

$$f(x) = \frac{1}{b-a} \qquad a \le x \le b.$$

When $a = 0$ and $b = 1$, this reduces to

$$f(x) = \frac{1}{1-0} = 1 \qquad 0 \le x \le 1,$$

which is the probability density function of the standard uniform distribution.

APPL verification: The APPL statements

```
X := UniformRV(0, 1);
Y := StandardUniformRV();
```

yield the probability density functions

$$f(x) = 1 \qquad 0 \le x \le 1$$

and

$$f(y) = 1 \qquad 0 \le y \le 1,$$

which are equivalent.