Theorem The standard power distribution is a special case of the power distribution when $\alpha = 1$.

Proof Let the random variable X have the power distribution with probability density function

$$f_X(x) = \frac{\beta x^{\beta-1}}{\alpha^\beta} \qquad\qquad 0 < x < \alpha.$$

Setting $\alpha = 1$ yields the probability density function

$$f_X(x) = \beta x^{\beta-1} \qquad\qquad 0 < x < 1,$$

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

APPL verification: The APPL statement

```
X := [[x -> beta * x ^ (beta - 1) / (alpha ^ beta)], [0, alpha],
      ["Continuous", "PDF"]];
subs(alpha = 1, X[1][1](x));
```

yields the probability density function of the standard power distribution.