In[2]:= `Solve[E^(-g) == -a g + 1, g]`

Solve::ifun : Inverse functions are being used by Solve, so
  some solutions may not be found; use Reduce for complete solution information. ≫

Out[2]= $\left\{\left\{g \to \dfrac{1 + a\, \text{ProductLog}\left[-\dfrac{e^{-1/a}}{a}\right]}{a}\right\}\right\}$

In[3]:= `? ProductLog`

ProductLog[z] gives the principal solution for w in $z = w e^w$.
ProductLog[k, z] gives the kth solution. ≫

In[4]:= `12 × 12`

Out[4]= `144`