In[]:= **$Assumptions = {m ≥ 0, r ≥ 0, c > 0, ħ > 0}**

Out[]= $\{m \geq 0, r \geq 0, c > 0, \hbar > 0\}$

In[]:= **DSolve[D[r φ[r], {r, 2}] == $\frac{m^2 c^2}{\hbar^2}$ r φ[r], φ[r], r]**

Out[]= $\left\{\left\{\varphi[r] \to \frac{e^{-\frac{cmr}{\hbar}} C_1}{r} + \frac{e^{\frac{cmr}{\hbar}} \hbar C_2}{2 c m r}\right\}\right\}$

In[]:= **%[[1, 1, 2, 1]]**

Out[]= $\frac{e^{-\frac{cmr}{\hbar}} C_1}{r}$

In[]:= **% /. {c m / ħ → 1 / R}**

Out[]= $\frac{e^{-\frac{r}{R}} C_1}{r}$

Out[]= $0 == \{c^2 m^2, c^2 m^2, c^2 m^2\}$