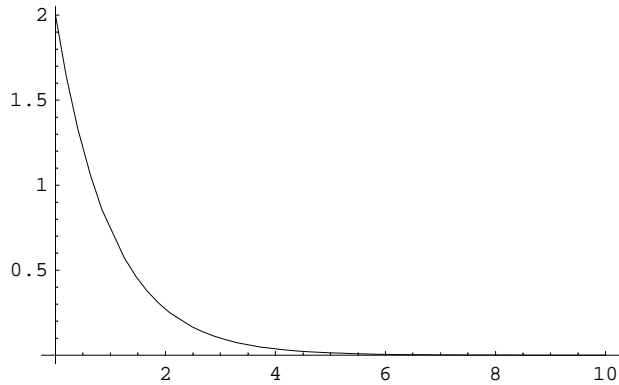


```
ClearAll["Global`*"]
```

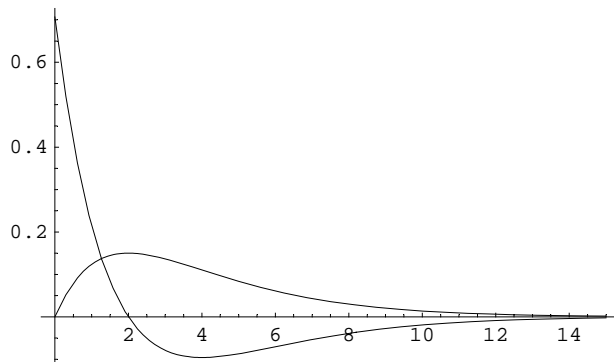
$$\psi_{nlm}(r, \theta, \varphi) = \left\{ (2\kappa)^3 \frac{(n-l-1)!}{2n(n+l)!} \right\}^{1/2} e^{-\kappa r} (2\kappa r)^l L_{n-l-1}^{2l+1}(2\kappa r) Y_l^m(\theta, \varphi) \quad , \quad \kappa = \frac{Z}{na}$$

$$f[n_, l_, r] = \sqrt{\left(\frac{2}{n}\right)^3 \frac{(n-l-1)!}{2n(n+l)!}} \text{LaguerreL}[n-l-1, 2l+1, \frac{2r}{n}] \left(\frac{2r}{n}\right)^l e^{-r/n};$$

```
Plot[Evaluate[f[1, 0, r]], {r, 0, 10}, PlotRange -> All]
```



```
Plot[Evaluate[{f[2, 1, r], f[2, 0, r]}], {r, 0, 15}, PlotRange -> All]
```



```
Plot[Evaluate[{f[3, 2, r], f[3, 1, r], f[3, 0, r]}], {r, 0, 25}, PlotRange -> All]
```

