```
In[1]:= P[J_] := Exp[- J J / 2] / Sqrt[2 Pi]

In[2]:= P1[J_] := Integrate[P[K], {K, J, +Infinity}]

In[3]:= Integrand[J_] := 8 J P[J] P1[J] P1[J]

In[6]:= DeltaE = Integrate[Integrand[J], {J, 0, +Infinity}]
```

$$\text{Out[6]}= 4\sqrt{\frac{2}{\pi}}\int_0^{\infty} E^{-\frac{J^2}{2}}\, J\, \text{If}\left[J > 0,\ \frac{1}{2}\left(1 - \text{Erf}\left[\frac{J}{\sqrt{2}}\right]\right),\ \int_J^{\infty} \frac{E^{-\frac{K^2}{2}}}{\sqrt{2\pi}}\, dK\right]^2 dJ$$

```
In[7]:= DeltaE // N

Out[7]= 0.111634
```