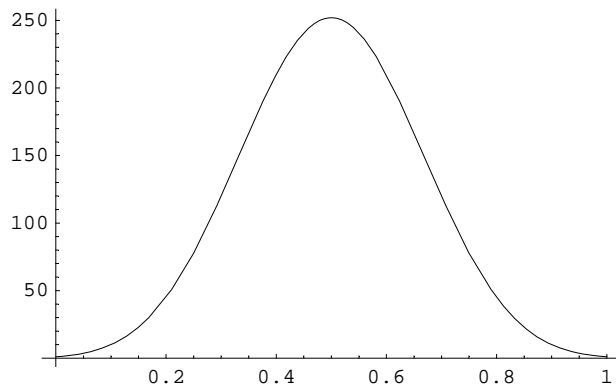# Plot of eq. B^2 eq. 1.15, used in Example 4.1
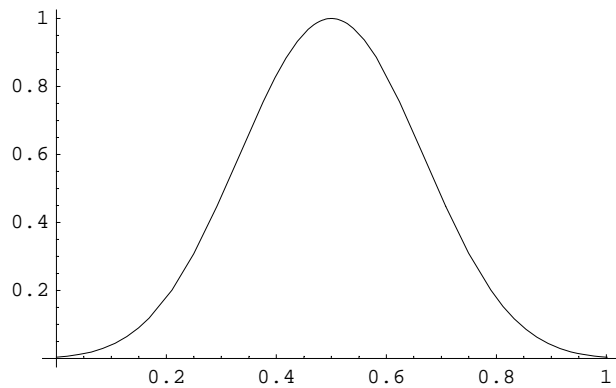
This plots the number of combinations of "n take r" objects. The horizontal axis is r / n, so normalized to run from from 0 to 1, while the maximum of the curve is normalized to 1 by dividing by the largest value of "n take r", namely "n take n/2".
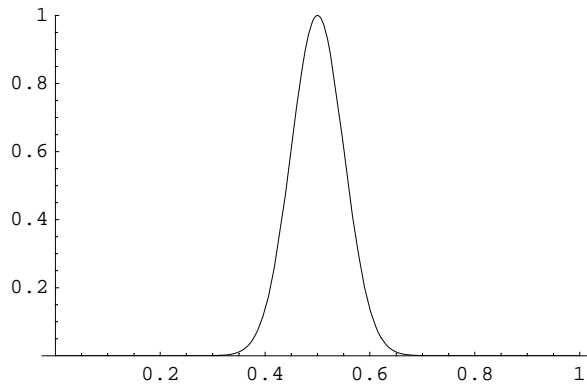
In[16]:= **Plot[Binomial[n, n * r] /. n → 10, {r, 0, 1}]**

Out[16]= - Graphics -

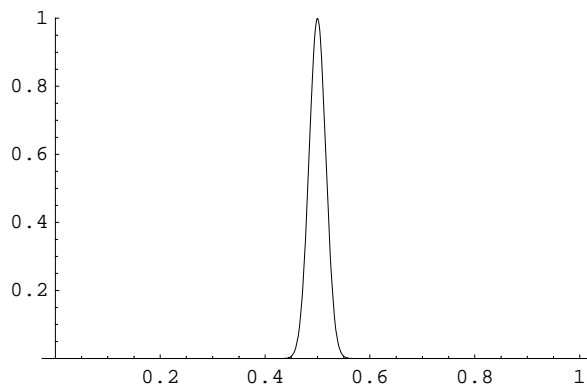*In[17]:=* **p10 = Plot[Binomial[n, n * r] / Binomial[n, n / 2] /. n → 10, {r, 0, 1}]**

Out[17]= - Graphics -

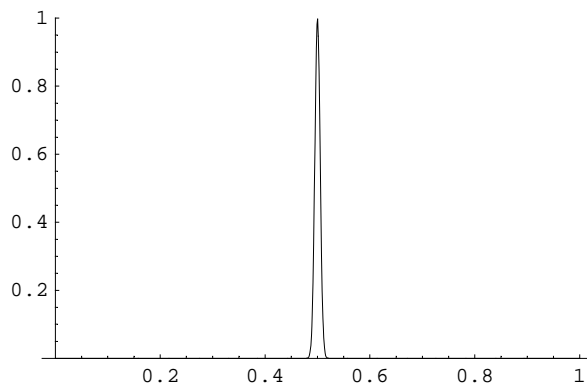*In[18]:=* **p100 = Plot[Binomial[n, n * r] / Binomial[n, n / 2] /. n → 100, {r, 0, 1}, PlotRange → {0, 1}]**

Out[18]= ‐ Graphics ‐

In[19]:= **p1000 =**
Plot[Binomial[n, n * r] / Binomial[n, n / 2] /. n → 1000, {r, 0, 1}, PlotRange → {0, 1}]

Out[19]= ‐ Graphics ‐

In[20]:= **p10000 =**
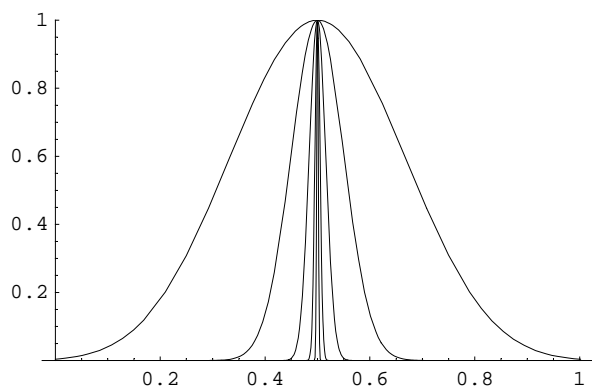**Plot[Binomial[n, n * r] / Binomial[n, n / 2] /. n → 10000, {r, 0, 1}, PlotRange → {0, 1}]**

Out[20]= ‐ Graphics ‐

In[21]:= **p100000 =**
      Plot[Binomial[n, n * r] / Binomial[n, n / 2] /. n → 100000, {r, 0, 1}, PlotRange → {0, 1}]
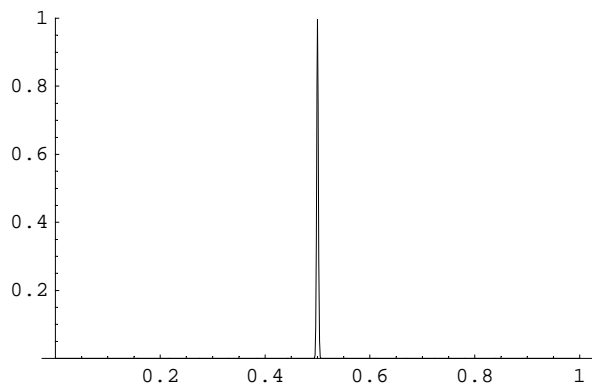
Out[21]= ▪ Graphics ▪

In[23]:= **Show[p10, p100, p1000, p10000, p100000, PlotRange → {0, 1}]**

Out[23]= ▪ Graphics ▪