

```
In[8]:= 3 p^2 * (1 - p) + p^3  
      << MaTeX`
```

```
Out[8]= 3 (1 - p) p^2 + p^3
```

 **MaTeX**: Symbol MaTeX appears in multiple contexts {MaTeX`, Global`}; definitions in context MaTeX` may shadow or be shadowed by other definitions.

```
In[9]:= Plot[3 (1 - p) p^2 + p^3, {p, 0, 1}]
```

Total influence for majority

```

In[25]:= k = 2
n = 2 k - 1
TotInf[p_, n_, k_] = n Binomial[n - 1, k - 1] p^(k - 1) (1 - p)^(k - 1)
Plot[TotInf[p, n, k], {p, 0, 1}]

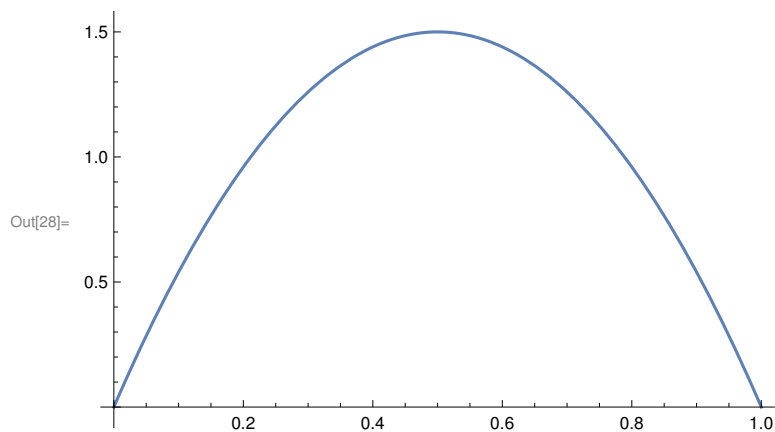
Dmaj3[p_] = 2 + 2 p - 2 p^2
LowerBound[p_, n_, k_] =
  4 p (1 - p) (Sum[Binomial[n - 1, k - 1] p^(k - 1) (1 - p)^(k - 1), {i, 1, n}])^2
plot1 = Plot[{Dmaj3[p], LowerBound[p, n, k]}, {p, 0, 1},
  PlotLegends -> {MaTeX@{"D_p(MAJ_3)", "4p(1-p)(\mathbf{I}^p(MAJ_3))^2"}}]
Export["/home/julia/git/ComplexityOfBooleanFunctions/plots/lowerbound_maj3.eps", plot1]

```

Out[25]= 2

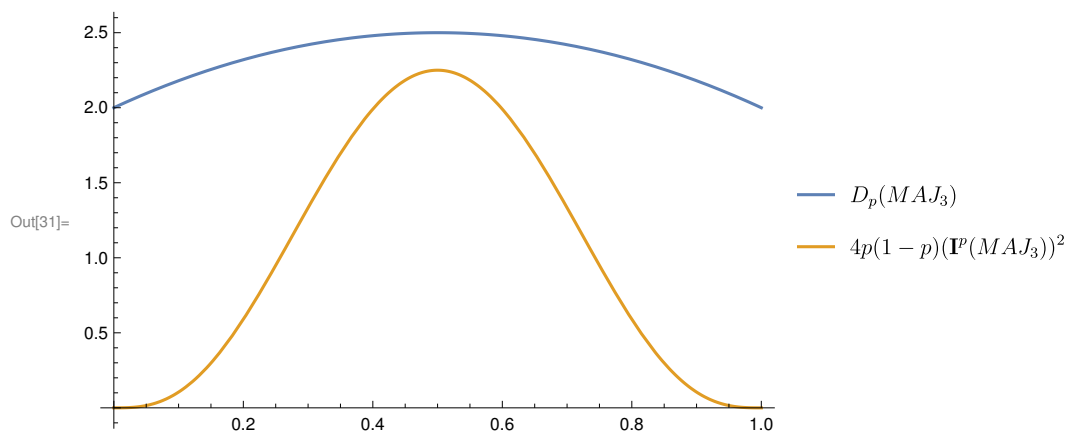
Out[26]= 3

Out[27]= $6(1-p)p$



Out[29]= $2 + 2p - 2p^2$

Out[30]= $144(1-p)^3 p^3$



Out[32]= /home/julia/git/ComplexityOfBooleanFunctions/plots/lowerbound_maj3.eps

```

In[33]:= k = 3
n = 2 k - 1
LowerBound[p_, n_, k_] =
  4 p (1 - p) (Sum[Binomial[n - 1, k - 1] p^(k - 1) (1 - p)^(k - 1), {i, 1, n}])^2
Dmaj5[p_] = 3 + 3 p + 3 p^2 - 12 p^3 + 6 p^4
plot2 = Plot[{Dmaj5[p], LowerBound[p, n, k]}, {p, 0, 1},
  PlotLegends -> {MaTeX@{"D_p(MAJ_5)", "4p(1-p)(\mathbf{I}^p(MAJ_5))^2"}}
Export["/home/julia/git/ComplexityOfBooleanFunctions/plots/lowerbound_maj5.eps", plot2]

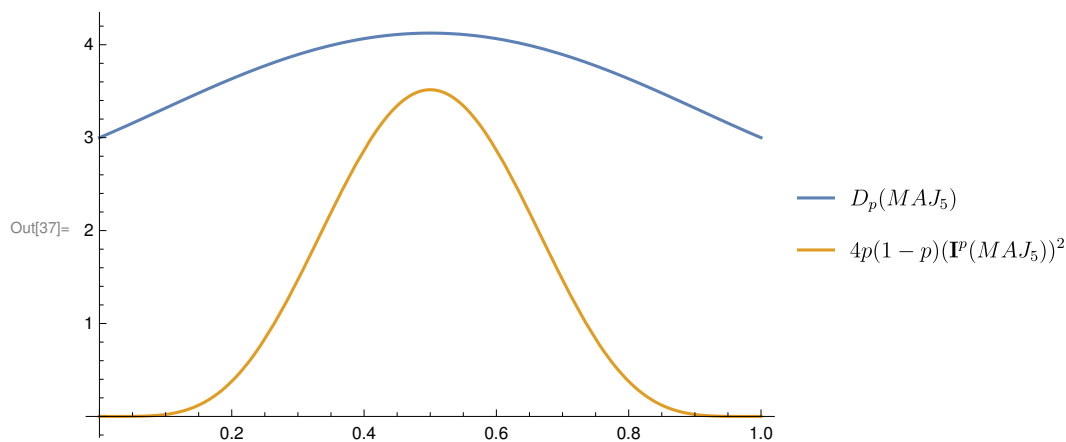
```

Out[33]= 3

Out[34]= 5

Out[35]= $3600 (1 - p)^5 p^5$

Out[36]= $3 + 3 p + 3 p^2 - 12 p^3 + 6 p^4$



Out[38]= /home/julia/git/ComplexityOfBooleanFunctions/plots/lowerbound_maj5.eps