

Infinite possibilities

The globe is a polyhedron with an infinite number of sides

The posterior probability of any “side” p is proportional to:

$$p^W (1 - p)^L$$

Only trick is normalizing to probability. After a little calculus:

$$\text{Posterior probability of } p = \frac{(W + L + 1)!}{W!L!} p^W (1 - p)^L$$