

Dragon dice $p(x=k) = \binom{n}{k} (1-p)^{n-k} p^k$

Probability hermoine's number doesn't come up: $K=0$

$$p(X=0) = \binom{3}{0} \cdot (1-1/6)^{3-0} (1/6)^0$$
$$1 \cdot (5/6)^3 \cdot 1 = 125/216 = .5787$$

$$p(X=1) = \binom{3}{1} \cdot (1-1/6)^{3-1} (1/6)^1$$
$$3 \cdot (5/6)^2 \cdot 1/6 = .3472$$

$$p(X=2) = \binom{3}{2} \cdot (1-1/6)^{3-2} (1/6)^2$$
$$3 \cdot (5/6) \cdot (1/36) = .0694$$

$$p(X=3) = \binom{3}{3} \cdot (1-1/6)^{3-3} (1/6)^3$$
$$1 \cdot 1 \cdot 1/216 = .004$$

$$E[X] = (-1)(.5787) + (1)(.3472) + (2)(.0694) + (3)(.004)$$

$$E[X] = -0.078$$