MATH 113: DISCRETE STRUCTURES
READING QUESTIONS FOR FRIDAY WEEK 3

Reading assignment. *DM:EB* §3.1.

Question 1. What does the binomial theorem say when you plug in $x = 1$ and $y = -1$? What does this tell you about even- versus odd-sized subsets of $\underline{n}$?

Problem 2. When $n = 2$, the binomial theorem says that $(x + y)^2 = x^2 + 2xy + y^2$. Interpret this geometrically in terms of the area of various squares and rectangles whose dimensions are determined by x and y. (Your answer could be a single well-labeled picture.) *Challenge*: Do the same for $(x + y)^3$ but with volume of boxes.