

**MATH 113: DISCRETE STRUCTURES**  
**READING QUESTIONS FOR MONDAY WEEK 5**

**Reading assignment.** *DM:EB §3.1.*

*Question 1.* What does the binomial theorem say when you plug in  $x = 1$  and  $y = -1$ ? (It should result in an identity which you have seen and interpreted before.)

*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.