

Stat 185 - In class problems
Wednesday, October 4

Our quiz on Friday will look quite a lot like this!

1. (a) Suppose I roll one fair, six-sided die.
What is the probability that I roll a 2 or a 3?
(b) Suppose I roll two fair, six-sided die.
What is the probability that I roll a 2 and a 3?
(c) What is the distinction between parts (a) and (b)?
2. Suppose I can buy a lottery ticket for \$1 to get 1 chance in 10,000 to win \$10,000 and 99 chances in 10,000 to win \$100. What is the expected value of that ticket?
3. Consider a random variable X with the following distribution:

X	-1	2	4	8
$P(X)$	0.2	0.3	0.1	0.4

- (a) Write down the specific formula showing that $E(X) = 4$.
 - (b) Write down the specific formula to evaluate $\sigma(X)$.
4. According to the UNCA Factbook, 666 students enrolled as Freshmen and 303 students enrolled as transfer students in the Fall of 2016. If we randomly select 10 of those new students, what is the probability that exactly 3 or 4 of them will be transfer students?