1. Dr. Crawford has all of your names on slips of paper in a box. There are 29 students registered for class.

(a). If she draws out one name at random, what are the chances that you will win the prize? What are the chances you will not win the prize?

(b). If she draws out a second name, what are the chances that you will win this time? What are the chances you will not win?

(c). Suppose all 29 of the names are back in the box. If you know that 14 students are freshmen, 7 are sophomores, 3 are juniors, and 5 are seniors and she draws out one name, what are the chances the winner will be a sophomore? What are the chances the winner will be a junior or a senior?

(d). What are the chances that Dr. Crawford brought treats for everyone?

2. If you roll a single die,

(a). What is the chance that you will roll a 1? What is the chance that you will roll a 2? 3? 4? 5? 6?

(b). What is the chance that you will <u>not</u> roll a 2?

(c). What is the chance that you will roll an <u>even</u> number?

3. With your partner, roll the single die as many times as you can (until instructed to stop). Record the number of times you roll each of the numbers 1 through 6.

Number on die	How many times rolled
1	
2	
3	
4	
5	
6	
Total Rolls	

(a). Looking back at question #2(a), you should have said that the chance was 1/6 or 1 in 6 of rolling a 2.

Another way of thinking about this number is to consider that for every 6 rolls you expect to roll a 2 once.

Fill in the following information:

6 Rolls Expect: 1 Two

60 Rolls (6×10) Expect: 10 Two's Or equivalently: $\frac{1}{6}$ Chance $\times$ 60 Rolls = 10 Two's expected.

600 Rolls (6×100) Expect: _____ Two's Or: $\frac{1}{6}$ Chance $\times$ 600 Rolls = _____ Two's expected.

6000 Rolls (6×1000) Expect: _____ Two's Or: $\frac{1}{6}$ Chance $\times$ 6000 Rolls = _____ Two's expected.

(b). Based on the equivalent version above, how many times would you expect to roll a 2, if you rolled the dice 1000 times?

$\frac{1}{6} \times$ _____ $\approx$ _____ Two's.

(c). From the table above, how many total times did you roll the die? _____
Using the equivalent version above, how many times would you *expect* to roll a 2 for that total number of rolls?

$\frac{1}{6} \times$ _____ $\approx$ _____ Two's.

(d). How many times did you *actually* roll a 2?

Is it close to your expectation in part (c)?

(e). What is the decimal equivalent of 1/6?

Convert the fraction $\frac{\text{\# of times you rolled a 2}}{\text{total \# of rolls}}$ into a decimal.

Is this decimal close to the decimal equivalent of 1/6?