Name _____ _KEY_ _____

Instructions: You must show all work to receive full credit for the problems below. You may use Excel where appropriate. Any datasets needed will be posted on Canvas with the quiz file, and you should submit such work along with your quiz. Round answers to two decimal places unless other instructions are given in the problem.

1. On a previous, we described an unfair coin with the probability of getting heads at 78%. Create a simulation in an Excel sheet that models the unfair coin flips using a RAND function and an IF function to determine if the flip is heads to tails. Model 25 flips and count the number of Heads that appear.

   in Excel Sheet 1

2. If we wanted to model a standard die roll in Excel, write the function we would use below.

   =RANDBETWEEN (1, 6)

3. The quadratic formula $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ is used to solve an equation of the form $ax^2 + bx + c = 0$. Write a formula in Excel to solve any formula of this type using cell references, so that someone just needs to enter the coefficients of the equation in the appropriate boxes. Then use your formula to solve the equation $3x^2 + 11x - 48 = 0$. If your solutions are decimals, round your answer to 4 decimal places. Be sure that your calculations can find both solutions.

   in Excel Sheet 2

   _2.5668_
   _-6.2335_