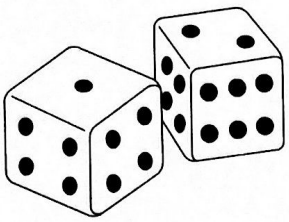
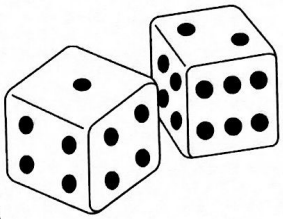
Optional





Game of Chance

Due Date - _____

It is now your turn to develop your own game using probability. You may work alone or with **one** partner. The following requirements need to be met:

Step One:

1. Decide on a game that you would like to develop.

2. Test your ideas through simulations of your game.

3. Will you be able to answer all of the questions in Step Two for your game?

4. Share your thoughts with Mr. G before proceeding. Proposal Acceptance date: _____

Step Two: Prepare your written project including each of the following:

1. Name your game. (5 points)

2. Describe the rules of your game. (10 points)

3. Play your game, **recording the results**, and determine the experimental probability of winning. "Playing of your game" may be done with the actual materials, or simulated with the calculator. Play a realistic number of times in order to feel somewhat confident about your experimental probability. (5 points)

4. Determine the theoretical probability of winning your game. This may be much more difficult than it sounds……so think about this aspect of your game as ideas grow. Of course your work must be shown! (10 points)

5. How do the experimental results (in problem 3) compare to the theoretical probabilities (in problems 4)? (5 points) Is there a big difference? (5 points)

6. If it costs $2 to play your game, what must be the payoff in order to make this a fair game? What's a fair game? Look it up or ask! (5 points)

7. Find two other individuals to play your game. Provide them with the proper forms or worksheets to record their results. (5 points)

8. Are there any improvements or alterations that you think should be made to your game?

Grade- Replace one quiz or test grade of your choosing – whichever you prefer. ☺ Have fun!