# ELIM&MINATION

NAME _____

## Sheet 1

The following activities will allow you to collect sets of data. As these activities are completed, record the data in tabular form.

Pour a half-pound bag of M&M's onto a paper plate so that the candies are one layer thick. You will need to spread the M&M's to the edges of the plate. Remove all the M&M's with the M showing on one side (look closely at the yellow ones because the M is hard to see). Count and record the number of M&M's removed and the number remaining. Eliminate the M&M's removed and pour the ones remaining into a container. Shake the container and pour these M&M's back onto the plate and again remove all the M&M's with the M showing. Record the number removed and the number remaining. Continue to repeat this process until all the M&M's are removed. Use the following chart to record your information. Add additional trial numbers as the experiment progresses.

| Trial Number | Number Removed | Number Remaining |
|---|---|---|
| | | |
| | | |
| | | |
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| | | |

Let ***x*** be the trial number and let ***y*** be the number of pieces remaining. Plot all points (***x,y***) and analyze the data. Make a scatterplot of each set of data on a graphing calculator and decide which type of function best represents the data. Write an equation that fits the data as closely as possible. Test your equations by drawing the function over the scatterplot on the graphing calculator. Though no *one* correct answer exists for each problem, some answers may be better than others. Try to find the best fit possible. Record the type of function you chose, the equation for the function, and a graph of the scatterplot and function.

### The Flaming Function

For this activity, use the smallest-sized candles available and don't place the ruler too close to the flame.

Let ***x*** be time in seconds and ***y*** be height in centimeters. Let the initial value of ***x*** be zero and the initial value of ***y*** be the height of a birthday candle. Stand the candle on a heat-resistant tile or plate by lighting another candle and dripping some wax onto the plate and then setting the candle in the wax. Light the birthday candle and measure its height every twenty seconds. Extinguish the candle before it burns all the way down. Plot the ordered pairs ***(x,y)*** and analyze the data.
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