APStatistics 

*7.02* **Means and Variances of Random Variables**

**Directions:** Complete the assignment. Clearly label each answer. (30 points)

1. Find the average, money won/loss for the Camp Wannahockaloogi (raffle ticket on next page) using the plan outlined below. (20 points: 10 points for the table, 5 points for item g, 5 points for item h).
	1. Make a table with five columns labeling one column "Event" (How much money can be won).
	2. Label another column "x", this is the random variable; it is the winning      MINUS the cost of the ticket.
	3. Label the next column "Frequency", this is the number of winners for each
	prize.
	4. Label the next column "P(x)".  This is the probability for each event.
	5. Label the last "x \* P(x)".  This column will be used to calculate the expected value (Average).
	6. Calculate the product "x \* P(x)" by multiplying the random variable, "x", by its corresponding probability, "P(x)".
	7. Find the sum of this column. Interpret this amount.
	8. Verify your answer

Camp Wannahockaloogi

Summer Raffle 2014

**100 Tickets @ $5 each**

**1st Prize – Underwater Treasure Chest ($100 value)**

**2nd Prize – Goggles etched with the address P. Sherman, 42 Wallaby Way ($50 value)**

**3rd Prize – “Fish are Friends, not Food” bumper sticker ($10 value)**

![C:\Users\Sharon\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\V5QCM14K\MC900358129[1].wmf]()

**Drawing to be held May 4, 2014**

1. An AP Statistics teacher is desperately rummaging around her box of AAA batteries trying to find 2 working batteries for a student’s graphing calculator. The teacher has 10 batteries, 3 of which are dead. The teacher randomly selects two batteries.
	1. Create a probability model (values for a random variable and corresponding probabilities) for the number of good batteries (4 points):

* 1. What is the expected number of good batteries the teacher selects? (3 points):
	2. What is the standard deviation? (3 points):