

Name:

Date:

Review: Binomial Probabilities (weighted and unweighted)

Harry made a carnival game where contestants try and toss a bean bag into a bucket. They each get 6 tosses to try and make as many bean bags into the bucket as they can.



- If they make all 6 they get a goldfish
- If they make 4 or 5 they get a Capri Sun If they make 2 or 3 they get a small piece of candy
- They do not get any prize if they make 0 or 1

1. What is the probability of getting a goldfish?



2. What is the probability of getting a Capri Sun



3. What is the probability of getting a small piece of candy? 

4. What is the probability of getting nothing?

5. Harry knows that a box of Capri Sun costs \$2.20. If there are 8 pouches in each box how much does one Capri Sun cost him?

6. Harry knows that a big mixed bag of candy has 55 pieces in it and it costs \$8.48. How much does each piece of candy cost him?

7. Harry is trying to find his expected profit of his game. He plans on charging \$1. What is his expected profit (note that goldfish cost \$0.50 each).

8. If Harry assumes that 130 people are going to play his game how many of each prize can he expect to give away?

Pam competes in skeet shooting and is trying to improve to a level to make it to the national competition. Her trainer decided that he would help give her an incentive by letting her shoot for a cash reward once a week. She gets to take one shot, if she makes it she gets \$5 and a chance to shoot one more time for a \$10 bonus. If she misses the first shot she only gets \$1 and not a second try (he doesn't want to encourage failure). Right now she makes her shots 60% of the time



9. What is the probability of making the following?

\$1	\$5	\$15

10. How much money can Pam expect to have in 6 weeks?

11. Pam has been practicing and now she is shooting accurately 75% of the time
What is the probability of making the following?

\$1	\$5	\$15

12. Now how much money can Pam expect to have in 6 weeks?



13. Pam wants to have \$70 in 6 weeks. What does she need to improve her shooting accuracy to?
SHOW WORK!