

Name:

Statistics

Date:

Practice Quiz 5-B

1. For each situation, identify  $n$ ,  $r$ ,  $p$ , and  $q$  if applicable, or write "not a binomial experiment."

a) Two 6-sided dice both roll 5.

b) A 6-sided die and a 10-sided die both roll 5.

c) Three out of five 6-sided dice roll 1, 2, 3, or 6.

d) All five cards drawn are hearts.

2. Anthony rolls eight 6-sided dice that each have three turtles, two squirrels, and one cow. For each of the following expressions, calculate the value and use a clear, complete sentence to explain what it represents in this context. Start each answer with *This is the probability of...* or with *This is the number of ways....*

a)  $(\frac{1}{6})^5$

b)  $(\frac{5}{6})^3$

c)  $\binom{8}{3}$

d)  $\binom{8}{3}(\frac{1}{6})^5(\frac{5}{6})^3$

3. Devin has a 1-in-3 chance of winning in each round of rock-paper-scissors. Calculate the probability of each of the following. Show all steps by hand, without using decimals or percents in your work or answers.

a) Her first win is on the third round.

b) Her first win is after the third round.

c) She wins all three of the first three rounds.

d) She wins exactly one of the first three rounds.

4. Logan rolls seven 4-sided dice. What is the probability that more than two of them roll 3? Show all steps by hand, without using decimals or percents in your work or answers.