Math 101 - Worksheet for Section 11.3-4

Name: _____

1. A fair coin is tossed 10 times.
   (a) How many different outcomes are there?

   (b) How many outcomes have no tails (that is all 10 are heads)?

   (c) How many outcomes have exactly one tail?

   (d) How many outcomes have exactly two tails?

   (e) What is the probability of obtaining exactly two tails in tossing a coin 10 times?

2. A six-sided die is rolled 5 times, how many different outcomes are there? How many outcomes have exactly three 6?
   (a) Identify n, p, q, and x
   (b) Use the formula $P(x) = {}_nC_x p^x q^{n-x}$

3. A survey found that 25% of adults have hidden purchases from their spouses. You randomly select 20 adults with spouses. What is the probability that exactly 18 of them have hidden purchases from their spouses?

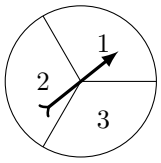
   (a) Identify n, p, q, and x

   (b) Use the formula $P(x) = {}_nC_x p^x q^{n-x}$

4. The following spinner is spun 6 times to generate a 6-digit number. What is the probability that a generated number has exactly 2 odd digits?

   (a) Identify n, p, q, and x

   (b) Use the formula $P(x) = {}_nC_x p^x q^{n-x}$



5. In the game of Plinko, a disk is dropped at the top middle slot, and it hits the pins along its way down. What is the probability of winning \$1000?