Math 1116, Quiz #16, Spring 2013 Name KEY

Instructions: Show all work. Give exact answers for each probability below, and then convert that to a percent with at least one decimal place. For very small percentages (<0.1%) give the first non-zero digit.

1. What is the probability of choosing a 4 from a standard deck of cards?

$4/52 \approx 7.69\%$

2. What is the probability of rolling snake eyes (two 1's) on two dice?

$1/36 \approx 2.78\%$

3. What is the probability of winning a vacation package if there are 210 contestants, and three winners?

$\frac{3}{152,1520} \approx 1.97E-6 \approx .000197\%$

4. What is the probability of choosing either a heart or a queen from a standard deck of cards?

$\frac{4+13-1}{52} = \frac{4}{13} \approx 30.8\%$

5. What is the probability of not getting exactly three heads if a coin is flipped 10 times?

$1 - \frac{120}{1024} = 88.3\%$

6. If the odds against winning a game are 7 to 1, what is the probability of winning?

$\frac{1}{8} \approx 12.5\%$

7. If you have to pay \$1 to play a game, but there is a 13% chance you will win \$6, should you play the game? [Hint: find the expected value.]

$13\% * 6 - 1 = -.22$ no. in the long run you will lose