Secondary Math 2 **11.2 Practice** **Name:** _____ **Period:** _____

1. You spin the spinner, then flip the coin once. Calculate the following probabilities.
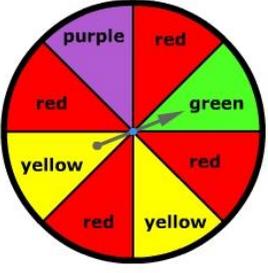
	a) $P(Yellow\ then\ heads)$
	b) $P(Purple\ then\ tails)$
	c) $P(Not\ green\ then\ heads)$
	d) $P(Red\ or\ yellow\ then\ tails)$

2. You draw one card. Calculate the following probabilities.

	c) $P(Even\ \textbf{or}\ Shaded)$
1 2 3 4 5 6 7 8 9 10	d) $P(White\ \textbf{or}\ Odd)$

a) $P(Less\ than\ 4\ \textbf{or}\ shaded)$	e) $P(Factor\ of\ 10\ \ \textbf{or}\ white)$
b) $P(Greater\ than\ 5\ \textbf{or}\ shaded)$	f) $P(less\ than\ or\ equal\ to\ 2\ \ \textbf{or}\ shaded)$

3. You randomly draw two marbles out of a bag with replacement. The bag has 10 black, 8 red, 4 white, and 6 blue marbles. Calculate the following probabilities.

a) A white marble, then a red marble is selected.	b) A red marble is NOT selected, then a blue marble	c) A blue or black marble is selected, then a white
d) Selecting a marble that is NOT black, then a blue	e) A green marble, then a blue marble is selected	f) A color that is NOT black is drawn both times

4. You roll two dice. Fill in the table by calculating the sum of the two dice. Calculate the following probabilities.

	a) P(sum is 7)	b) P(sum is greater than 3)

	1	2	3	4	5	6
1						
2						
3						
4						
5						
6						

c) $P(\text{sum is } 13)$	d) P(sum is odd or 8)
e) P(4 or is prime)	f) P(sum greater than 10 or even)

5. Give the theoretical and experimental probabilities of the following.

Experiment	Theoretical Probability			Experimental Probability		
	Fraction	Decimal	Percent	Fraction	Decimal	Percent
Percentage of tails when you flip a coin 16 times.						
Percentage of 1's when you roll a die 16 times.						

6. Decide whether each of the following events are mutually exclusive or not and then calculate each probability. (All are "or" events, so use the addition rule)

a) A plate of cookies has 5 chocolate chip, 4 oatmeal, 6 sugar, and 2 peanut butter cookies. You take one cookie and it is a sugar or chocolate chip cookie.

b) A bag contains cards numbered from 1 to 20. One card is drawn at random. Event A: Selecting an even number. Event B: Selecting a multiple of 5.

c) A card is drawn from a deck of standard playing cards. Event A: A Diamond is drawn. Event B: A Jack is drawn.

d) There are 25 students in a class. 5 of them are seniors, 14 are juniors, and 6 are sophomores. One class president is chosen. The student is a senior or sophomore.

e) You roll a fair twelve-sided die. The die shows an odd number or a number greater than 8.

f) Everybody in your extended family says their birthday month. There are 2 in January, 2 in February, 5 in March, 3 in April, 6 in May, 1 in June, 0 in July, 7 in August, 2 in September, 3 in October, 8 in November, and 3 in December. Event A: Birthday in August. Event B: Birthday in January.