Name: _____ Period: _____

Worksheet 9-2
Theoretical and Experimental Probability

Unit 9

1. What is the difference between theoretical and experimental?

2. If you toss a coin, what is the theoretical probability of getting heads?

   P(heads)=

3. If you toss a coin 20 times, according to the theoretical probability, how many times should you get heads?

4. If you toss a coin 20 times, according to the theoretical probability, how many times should you get tails?

5. Toss a coin 20 times. Use the frequency table to record the data.

Heads or Tails	Frequency
Heads	
Tails	

6. What is your experimental probability of getting heads? ***(write your answer as a fraction, decimal and a percent)***

7. What is your experimental probability of getting tails? ***(write your answer as a fraction, decimal and a percent)***

8. Is your experimental probability the same as your theoretical probability?

9. If you roll a six sided die, find the theoretical probability of rolling each number.

   P(1)= P(2)=

   P(3)= P(4)=

   P(5)= P(6)=

10. If you roll a six sided die 30 times, according to the theoretical probability, how many times will you roll a four?

11. Roll a six sided die 30 times. Use the frequency table to record the data.

Number	Frequency
1	
2	
3	
4	
5	
6	

For questions 12-17, use your results from #11 and write your answer as a fraction, decimal and a percent.

12. What is your experimental probability of getting a 1?

    _____ _____ _____

    Is your experimental probability the same as your theoretical probability?

13. What is your experimental probability of getting a 2?

    _____ _____ _____

    Is your experimental probability the same as your theoretical probability?

14. What is your experimental probability of getting a 3?

    _____ _____ _____

    Is your experimental probability the same as your theoretical probability?

15. What is your experimental probability of getting a 4?

    _____ _____ _____

    Is your experimental probability the same as your theoretical probability?

16. What is your experimental probability of getting a 5?

_____ _____ _____

Is your experimental probability the same as your theoretical probability?

17. What is your experimental probability of getting a 6?

_____ _____ _____

Is your experimental probability the same as your theoretical probability?

Ask 20 people what color their eyes are. Record your data on the line plot below.

Brown	Blue	Hazel	Other

For questions 22-25, write your answer as a fraction, decimal and a percent.

18. What was the experimental probability of someone having brown eyes?

19. What was the experimental probability of someone having blue eyes?

20. What was the experimental probability of someone having hazel eyes?

21. What was the experimental probability of someone having other eyes?