

# Worksheet 10-7 - PreAlgebra

## Theoretical and Experimental Probability

The table shows the results of an experiment in which a spinner was spun 50 times. Find the experimental probability of each outcome.

Number	Frequency	Number	Frequency
1		9	
2		10	
3		11	
4		12	
5		13	
6		14	
7		15	
8		16	

1.  $P(\text{less than } 4)$
2.  $P(10 \text{ or } 11)$
3.  $P(\text{multiple of } 4)$
4.  $P(\text{not } 10)$

The table on the right shows the type and number of businesses in Wilsonville. If there are 625 businesses in the nearby town of Newberry, predict how many of each type of business there would be in Newberry.

Business Type	Number
Grocery Store	10
Retail Store	54
Copy Shop	6
Restaurant	40
Car Dealership	5
Pet Shop	10

5. grocery stores
6. retail stores
7. restaurants
8. pet shops and copy shops

The table shows the results of a survey conducted by a local restaurant of some of its customers. The customers were asked what new menu item they would prefer to see added to the menu from the choices provided.

Restaurant Survey			
Item	Chicken Carbonara	Beef Tips	Shrimp Scampi
Number of Responses	42	28	30

9. What is the probability of beef tips being the preferred new menu item?
10. Out of a similar group of 250 customers, predict how many would choose beef tips as their preferred new menu item?
11. Out of a similar group of 375 customers, predict how many more customers will prefer chicken carbonara to shrimp scampi?
12. Melinda purchased a snack-size roll of candy tarts, and found that only  $\frac{1}{8}$  of them were grape-flavored. Suppose Melinda later buys a king-size roll of candy tarts that contains 40 pieces. How many of that roll can she expect to be grape-flavored?

A soccer coach is dividing his players into groups of five. Kate, Jocilyn, Monty, Giorgianna, and Henry are in one group. Each one of their names is written on a separate piece of paper. The coach draws a name each week (and then replaces it for the next week) to find the group leader.

13. Predict the number of times that Giorgianna's name will be drawn in 32 weeks. Round to the nearest whole number.
14. Kate's name was actually drawn 8 times during the 32-week period. What was the experimental probability that Kate's name was drawn, and how does it compare to the theoretical probability?