

1. Jared plays a game where the players take turns spinning a wheel with 3 spaces. Each have a different prize value. The probability of landing on \$200 is $\frac{3}{7}$, probability of landing on \$500 is $\frac{2}{7}$, and the probability of landing on \$1,000 is $\frac{2}{7}$. What is Jared's expected value (in monetary earnings) if he plays the game?

2. Jonathan draws a ticket from a box to select the door-prize winners at a party. The tickets are numbered from 1 to 25. What is the expected value that the tickets drawn will have numbers less than 5 if he draws tickets 40 tickets?

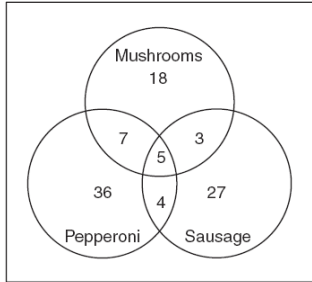
3. Niki has 9 new paperback books. Two of the paperbacks are mysteries, three are science fiction, and the rest are romances. If Niki were to randomly select two books from this set without replacing them, what is the probability that the first book selected is science fiction **and** the second book selected is a romance?

4. Jamal has a game with 2 groups of tiles. The first group of 26 tiles is labeled with all the letters of the alphabet. The second group of 10 tiles is numbered 0 through 9. If Jamal draws 1 letter tile and 1 number tile at random, what is the probability that he will draw a letter in his name and an odd number?

5. Which of the following is an **outcome**?

- A. Rolling a pair of dice
- B. Choosing 2 marbles from a jar
- C. Landing on red
- D. None of the above

6. A pizza parlor surveyed 100 customers to determine their favorite pizza topping or combination of toppings. The results are shown below. Find the following probabilities:



$P(\text{pepperoni})$

$P(\text{Sausage and Mushrooms})$

$P(\text{Pepperoni or Sausage})$

$P(\text{Mushrooms} \mid \text{Pepperoni})$

7. You go to a restaurant where you are able to create your own salad. The table below represents all the possible choices to create your ideal salad.

Lettuce	Toppings	Dressing
Ice Berg	Cheese	Ranch
Romaine	Tomato	Italian
	Ham	Thousand Island
	Cucumber	

- Create a tree diagram illustrating all the possible salads that can be made.
- What is the probability of creating a salad with ice berg lettuce with Ranch dressing and one topping?
- What is the probability that you create a salad with romaine lettuce, tomatoes, and any dressing? Justify your answer.
- What is the probability that you create a salad with ice berg lettuce, Italian dressing, and either cheese or ham as a topping? Justify your answer.

8. You are registering for classes, you have the following choices:

Salazar- 1st, 2nd, 3rd, 6th, 7th

Morning classes will be 1st -4th

James- 3rd, 4th, 5th, 6th, 8th

Afternoon classes 5th-8th

Fowler- 1st, 2nd, 6th, 7th

Sturdivant- 3rd, 4th, 7th, 8th

Josey- 1st, 2nd, 6th, 8th

	1 st	2 nd	3 rd	4 th	5 th	6 th	7 th	8 th
Salazar								
James								
Fowler								
Sturdivant								
Josey								

- a. What is the probability of getting a morning class?
- b. Before deciding on a morning or afternoon class, Lisa remembered she wants to take her math class during 2nd period. What is the probability she will be scheduled a math class during this time?
- c. All of the morning science classes are filled & Lisa has a decision to take either Mrs. James or Mrs. Josey in the afternoon, what is the probability of Lisa taking a science class in the afternoon?
- d. Lisa is deciding on whether she should take English class in the morning or afternoon, when her school counselor informs her all of Mrs. Fowlers classes are filled. The school adds another teacher Mrs. Jackson. She will teach (1st, 3rd, 5th, and 6th). What is now the probability of getting Mrs. Jackson for English in the morning?
9. Phoenix goes to the North Georgia State fair and tries to play his luck at a game. He must roll a die and then spin a spinner with the possible outcomes of red, blue or purple.
- a. Draw an area model to fit this scenario:
- b. P(rolling 5)
- c. P(spinning purple or rolling an even number)
- d. P(rolling an prime number and spinning red)

10. A college surveyed 1125 freshman students about which meals they ate in the school cafeteria. The findings were as follows:

25 ate only breakfast, 15 ate only lunch, 50 ate only dinner, 60 ate only lunch and breakfast, 225 ate only lunch and dinner, 500 ate only dinner and breakfast, 240 ate all three meals in the cafeteria.

a. Fill in the Venn Diagram to fit the scenario:

b. $P(\text{Ate only breakfast})$

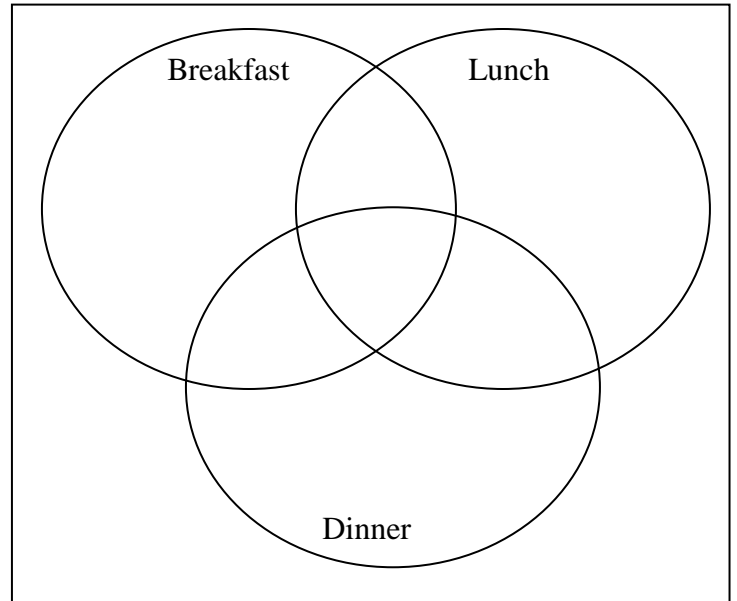
c. $P(\text{Ate breakfast \& lunch but not dinner})$

d. $P(\text{Ate at least 2 meals})$

e. $P(\text{Ate only 1 meal})$

f. $P(\text{Ate exactly two meals})$

g. $P(\text{Did not eat in the cafeteria})$



Unit 1 Review:

11. How many phone numbers are possible in the (770) area code for the form ABC-XXXX if: A is restricted to 1-9, B is restricted to 4-9, but C and X can be any digit 0-9

12. A crowd standing along a parade route is 5 feet deep and 1 mile long on both sides of the street. If each person occupies 2.5 square feet, estimate the size of the crowd watching the parade.

13. Change the check digit to make the following UPC code valid:
0 37849 89240 2

14. A golf ball has a diameter of 1.6 in³. How many golf balls will fit inside of a storage unit that is 10 feet wide, 20 feet long, and 8 feet high? (Volume of a sphere = $\frac{4}{3}\pi r^3$)