

Name: _____ Date: _____

Mutually Exclusive PracticeDetermine if the following events are mutually exclusive or overlapping.

- 0 1. The experiment is rolling a die.
The 1st event: the number is greater than 3
The 2nd event: the number is even.
- m.e. 2. The experiment is year in school.
The 1st event: the person is a senior.
The 2nd event: the person is a junior.
- 0 3. The experiment is answering multiple choice questions.
The 1st event: the correct answer is chosen
The 2nd event: the answer A is chosen.
- 0 4. The experiment is selecting a chocolate bar.
The 1st event: the bar has nuts
The 2nd event: the bar has caramel.

- 4/13 5. One card is randomly drawn from a deck of 52 cards. The card is face down on the table. What is the probability of getting a Jack or a Spade?

$$P(\text{Jack}) + P(\text{Spade}) - P(\text{both})$$

$$4/52 + 13/52 - 1/52$$

Use the general addition rule to compute the probability that if you roll two six-sided dice.

- 2/9 6. you get doubles or a sum of 4
 $P(\text{doubles}) + P(\text{sum of 4}) - P(\text{both})$
 $6/36 + 3/36 - 1/36$
- 1/3 7. you get doubles or a sum of 7
 $P(\text{doubles}) + P(\text{sum of 7}) - P(\text{both})$
 $6/36 + 6/36 - 0/36$

	1	2	3	4	5	6
1	2	3	4	5	6	7
2	3	4	5	6	7	8
3	4	5	6	7	8	9
4	5	6	7	8	9	10
5	6	7	8	9	10	11
6	7	8	9	10	11	12

- 11/36 8. you get a 5 on the first die or you get a 5 on the second die.
 $P(\text{rolling a 5}) + P(\text{rolling a 5}) - P(\text{rolling 2 5s})$
 $6/36 + 6/36 - 1/36$

Use the Venn Diagram to answer the following questions.

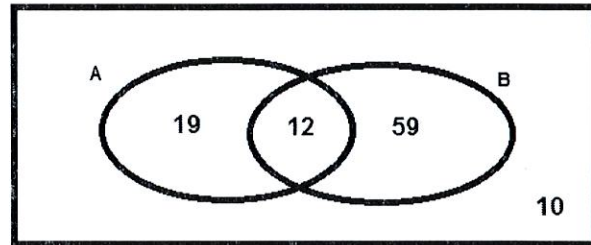
31/100 9. $P(A)$

71/100 10. $P(B)$

29/100 11. $P(B)'$

9/10 12. $P(A \cup B)$ 90/100

3/25 13. $P(A \cap B)$ 12/100



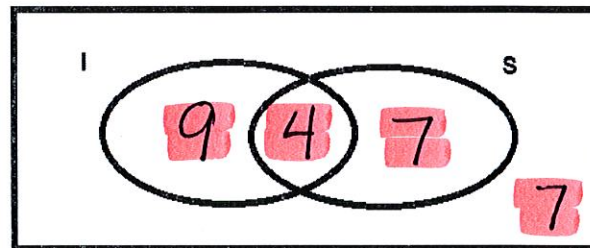
When you arrive home today, you find 27 cupcakes in a large circular plate. There are 13 that have icing 11 have sprinkles, and 4 have both.

13/27 14. $P(I)$

11/27 15. $P(S)$

20/27 16. $P(I \cup S)$

4/27 17. $P(I \cap S)$



Use the data below to find each of the following probabilities.

Coollest Deals Sold at Ike's

Topping choice	Ice cream choice				
	Vanilla	Chocolate	Cookie dough	Mint chip	
Sprinkles	9	12	16	14	<u>51</u>
Hot fudge	11	4	16	15	<u>46</u>
Caramel	10	12	18	15	<u>55</u>
	<u>30</u>	<u>28</u>	<u>50</u>	<u>44</u>	<u>152</u>

7/38 18. $P(\text{Chocolate})$ 28/152

31/38 19. $P(\text{Chocolate})'$ 124/152

2/19 20. $P(\text{Sprinkles} \cap \text{Cookie Dough})$ 16/152

75/152 21. $P(\text{Caramel} \cup \text{Vanilla})$ $\frac{55+30-10}{152} = \frac{75}{152}$