

12-5 Practice

Adding Probabilities

An urn contains 7 white marbles and 5 blue marbles. Four marbles are selected without replacement. Find each probability.

1. $P(4 \text{ white or } 4 \text{ blue})$
2. $P(\text{exactly } 3 \text{ white})$
3. $P(\text{at least } 3 \text{ white})$
4. $P(\text{fewer than } 3 \text{ white})$
5. $P(3 \text{ white or } 3 \text{ blue})$
6. $P(\text{no white or no blue})$

Jason and Maria are playing a board game in which three dice are tossed to determine a player's move. Find each probability.

7. $P(\text{two } 5\text{s})$
8. $P(\text{three } 5\text{s})$
9. $P(\text{at least two } 5\text{s})$
10. $P(\text{no } 5\text{s})$
11. $P(\text{one } 5)$
12. $P(\text{one } 5 \text{ or two } 5\text{s})$

Determine whether the events are *mutually exclusive* or *inclusive*. Then find the probability.

13. A clerk chooses 4 CD players at random for floor displays from a shipment of 24 CD players. If 15 of the players have a blue case and the rest have a red case, what is the probability of choosing 4 players with a blue case or 4 players with a red case?
14. A department store employs 28 high school students, all juniors and seniors. Six of the 12 seniors are females and 12 of the juniors are males. One student employee is chosen at random. What is the probability of selecting a senior or a female?
15. A restaurant has 5 pieces of apple pie, 4 pieces of chocolate cream pie, and 3 pieces of blueberry pie. If Janine selects a piece of pie at random for dessert, what is the probability that she selects either apple or chocolate cream?
16. At a statewide meeting, there are 20 school superintendents, 13 principals, and 6 assistant principals. If one of these people is chosen at random, what is the probability that he or she is either a principal or an assistant principal?
17. An airline has one bank of 13 telephones at a reservations office. Of the 13 operators who work there, 8 take reservations for domestic flights and 5 take reservations for international flights. Seven of the operators taking domestic reservations and 3 of the operators taking international reservations are female. If an operator is chosen at random, what is the probability that the person chosen takes domestic reservations or is a male?

18. **MUSIC** Forty senior citizens were surveyed about their music preferences. The results are displayed in the Venn diagram. If a senior citizen from the survey group is selected at random, what is the probability that he or she likes only country and western music? What is the probability that he or she likes classical and/or country, but not 1940's pop?

