

12-3 Practice

Probability

A bag contains 1 green, 4 red, and 5 yellow balls. Two balls are selected at random. Find the probability of each selection.

1. $P(2 \text{ red})$ 2. $P(1 \text{ red and } 1 \text{ yellow})$ 3. $P(1 \text{ green and } 1 \text{ yellow})$
 4. $P(2 \text{ green})$ 5. $P(2 \text{ red and } 1 \text{ yellow})$ 6. $P(1 \text{ red and } 1 \text{ green})$

A bank contains 3 pennies, 8 nickels, 4 dimes, and 10 quarters. Two coins are selected at random. Find the probability of each selection.

7. $P(2 \text{ pennies})$ 8. $P(2 \text{ dimes})$ 9. $P(1 \text{ nickel and } 1 \text{ dime})$
 10. $P(1 \text{ quarter and } 1 \text{ penny})$ 11. $P(1 \text{ quarter and } 1 \text{ nickel})$ 12. $P(2 \text{ dimes and } 1 \text{ quarter})$

Henrico visits a home decorating store to choose wallpapers for his new house. The store has 28 books of wallpaper samples, including 10 books of WallPride samples and 18 books of Deluxe Wall Coverings samples. The store will allow Henrico to bring 4 books home for a few days so he can decide which wallpapers he wants to buy. If Henrico randomly chooses 4 books to bring home, find the probability of each selection.

13. $P(4 \text{ WallPride})$ 14. $P(2 \text{ WallPride and } 2 \text{ Deluxe})$
 15. $P(1 \text{ WallPride and } 3 \text{ Deluxe})$ 16. $P(3 \text{ WallPride and } 1 \text{ Deluxe})$

For Exercises 17–20, use the table that shows the range of verbal SAT scores for freshmen at a small liberal arts college.

Range	400–449	450–499	500–549	550–559	600–649	650+
Number of Students	129	275	438	602	620	412

If a freshman student is chosen at random, find each probability. Express as decimals rounded to the nearest thousandth.

17. $P(400–449)$ 18. $P(550–559)$ 19. $P(\text{at least } 650)$

Find the odds of an event occurring, given the probability of the event.

20. $\frac{4}{11}$ 21. $\frac{12}{13}$ 22. $\frac{5}{99}$ 23. $\frac{1}{1000}$
 24. $\frac{5}{16}$ 25. $\frac{3}{95}$ 26. $\frac{9}{70}$ 27. $\frac{8}{15}$

Find the probability of an event occurring, given the odds of the event.

28. 2:23 29. 2:5 30. 15:1 31. 9:7
 32. 11:14 33. 1000:1 34. 12:17 35. 8:13