

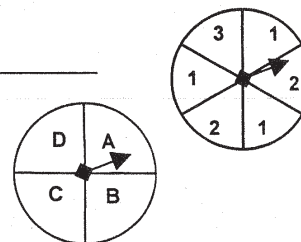
**Probability with Compound Events (Independent and Dependent)
Practice**

Describe the events by writing **I** for *independent event* or **D** for *dependent event*.

1. Ann draws a colored toothpick from a jar. Without replacing it, she draws a second toothpick. _____
2. John rolls a six on a number cube and then flips a coin that comes up heads. _____
3. Susie draws a card from a deck of cards and replaces it. She then draws a second card. _____
4. Seth draws a colored tile from a bag, replaces it; draws a second tile from the bag, replaces it; and then draws a tile a third time from the bag. _____
5. You draw a red marble from a bag, and then another red marble (without replacing the first marble)? _____

Using the two spinners, find each **compound** probability.

6. P(A and 2) _____
7. P(D and 1) _____
8. P(B and 3) _____
9. P(A and not 2) _____



A box contains 3 red marbles, 6 blue marbles, and 1 white marble. The marbles are selected at random, one at a time, and are **not replaced**. Find each **compound** probability.

10. P(blue and red) _____
11. P(blue and blue) _____
12. P(red and white and blue) _____
13. P(red and red and red) _____
14. P(white and red and white) _____

Suppose that two tiles are drawn from the collection shown at the right. The first tile is replaced before the second is drawn. Find each **compound** probability.



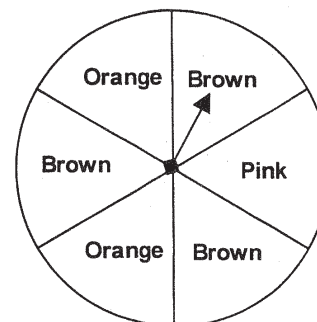
15. P(A and A) _____
16. P(R and C) _____
17. P(A and not R) _____

Suppose that two tiles are drawn from the same collection shown above. The first tile is **not** replaced before the second is drawn. Find each **compound** probability.

18. P(A and A) _____
19. P(R and C) _____
20. P(A and not R) _____

Use the spinner to the right for the next two problems.

21. If you spin the spinner twice, what is the probability of spinning orange then brown? _____
22. If you spin the spinner twice, what is the probability of spinning brown both times? _____



23. Kevin had 6 nickels and 4 dimes in his pocket. If he took out one coin and then a second coin without replacing the first coin ---
 - (a) what is the probability that both coins were nickels? _____
 - (b) what is the probability that both coins were dimes? _____
 - (b) what is the probability that the first coin was a nickel and the second a dime? _____

ANSWERS

Probability with Compound Events (Independent and Dependent) Practice

1. D 2. I 3. I 4. I 5. D

$$6. \frac{1}{2} \times \frac{2}{6} = \frac{1}{12}$$

$$7. \frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$$

$$8. \frac{1}{4} \times \frac{1}{6} = \frac{1}{24}$$

$$9. \frac{1}{4} \times \frac{2}{3} = \frac{1}{6}$$

$$10. \frac{6}{10} \times \frac{3}{9} = \frac{1}{5}$$

$$11. \frac{6}{10} \times \frac{5}{9} = \frac{1}{3}$$

$$12. \frac{3}{10} \times \frac{1}{9} \times \frac{6}{8} = \frac{1}{40}$$

$$13. \frac{3}{10} \times \frac{2}{9} \times \frac{1}{8} = \frac{1}{120}$$

$$14. \frac{1}{10} \times \frac{3}{9} \times \frac{6}{8} = \frac{1}{40}$$

$$15. \frac{2}{15} \times \frac{2}{15} = \frac{4}{225}$$

$$16. \frac{6}{15} \times \frac{3}{15} = \frac{2}{25}$$

$$17. \frac{2}{15} \times \frac{9}{15} = \frac{2}{25}$$

$$18. \frac{2}{15} \times \frac{1}{14} = \frac{1}{105}$$

$$19. \frac{6}{15} \times \frac{3}{14} = \frac{3}{35}$$

$$20. \frac{2}{15} \times \frac{8}{14} = \frac{8}{105} \left(\frac{8}{14} \text{ because A also now removed} \right)$$

$$21. \frac{2}{6} \times \frac{3}{6} = \frac{1}{6}$$

$$22. \frac{3}{6} \times \frac{3}{6} = \frac{1}{4}$$

$$23. \quad (a) \frac{6}{10} \times \frac{5}{9} = \frac{1}{3}$$

$$\quad (b) \frac{4}{10} \times \frac{3}{9} = \frac{2}{15}$$

$$\quad (c) \frac{6}{10} \times \frac{4}{9} = \frac{4}{15}$$