

Determine whether the outcomes of the two actions are *independent* or *dependent* events.

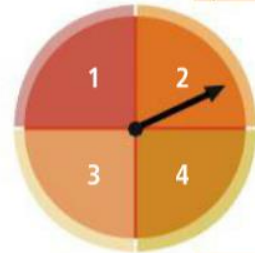


6. You toss a coin and roll a number cube.
7. You draw a marble from a bag without looking. You do not replace it. You draw another marble from the bag.
8. Choose a card at random from a standard deck of cards and replace it. Then choose another card.
9. Ask a student's age and ask what year the student expects to graduate.

You spin the spinner at the right and without looking, you choose a tile from a set of tiles numbered from 1 to 10. Find each probability.



10.  $P(\text{spinner lands on 2 and choose a 3})$
11.  $P(\text{spinner lands on an odd number and choose an even number})$
12.  $P(\text{spinner lands a number less than 4 and choose a 9 or 10})$



A bag contains 3 blue chips, 6 black chips, 2 green chips, and 4 red chips. Use this information to find each probability if a chip is selected at random.




13.  $P(\text{blue chip or black chip})$
14.  $P(\text{green chip or red chip})$
15.  $P(\text{green chip or black chip})$
16.  $P(\text{blue, black, or red chip})$

A set of cards contains four suits (red, blue, green, and yellow). In each suit there are cards numbered from 1 to 10. Calculate the following probabilities for one card selected at random.



17.  $P(\text{blue card or card numbered 10})$
18.  $P(\text{green or yellow card, or card numbered 1})$
19.  $P(\text{red card or card greater than 5})$
20.  $P(\text{red or blue card, or card less than 6})$
21. **Pets** In a litter of 8 kittens, there are 2 brown females, 1 brown male, 3 spotted females, and 2 spotted males. If a kitten is selected at random, what is the probability that the kitten will be female or brown?

24. What is the probability that a standard number cube rolled three times will roll first even, then odd, and then even?

 25. **Writing** Describe the difference between mutually exclusive and overlapping events. Give examples of each.

26. When you draw a marble out of a bag and then draw another without replacing the first, the probability of the second event is different from the probability of the first.

a. What is the probability of drawing a red marble out of a bag containing 3 red and 7 blue marbles?

b. What is the probability of drawing a second red marble if a red marble is drawn the first time and not replaced?

c. What is the probability of drawing two red marbles in a row?

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