

## Probability – Word Problems

1. A bag of candy contains three flavors: grape, orange, and strawberry. There is an equal number of each flavor. What is the probability of picking a strawberry candy?
2. A box of crayons has 12 red crayons, 12 blue crayons, and 12 green crayons. If you randomly choose one crayon, what is the probability that it will be blue?
3. A jar contains 30 white marbles, 50 black marbles, and 20 gray marbles. If you pick one marble without looking, what is the probability it will be gray?
4. A bag contains 15 chocolate candies, 15 vanilla candies, and 15 mint candies. What is the probability of choosing a mint candy?
5. A spinner is divided into 4 equal sections: red, yellow, green, and blue. What is the probability that the spinner lands on yellow?

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6. A jar has 30 red marbles, 20 green marbles, and 10 blue marbles. What is the probability of picking a green marble?
  
7. A basket contains 18 apples, 12 oranges, and 30 pears. If you pick one fruit at random, what is the probability it will be an orange?
  
8. A deck of cards has 10 hearts, 10 diamonds, 10 clubs, and 10 spades. If one card is chosen at random, what is the probability it will be a spade?
  
9. A bag has 60 balls: 20 red, 20 blue, and 20 yellow. What is the probability of picking a yellow ball? How does the probability change if 20 more yellow balls are added?
  
10. A jar contains 25 red marbles, 35 green marbles, and 40 yellow marbles. What is the probability of picking a red marble? How would the probability change if 25 more red marbles were added?

## Probability – Answer Key

1. The total number of flavors is 3.  
The probability of picking a strawberry candy is  $\frac{1}{3}$ .
2. The total number of crayons is  $12 + 12 + 12 = 36$ .  
The probability of picking a blue crayon is  $\frac{12}{36} = \frac{1}{3}$ .
3. The total number of marbles is  $30 + 50 + 20 = 100$ .  
The probability of picking a gray marble is  $\frac{20}{100} = \frac{1}{5}$ .
4. The total number of candies is  $15 + 15 + 15 = 45$ .  
The probability of picking a mint candy is  $\frac{15}{45} = \frac{1}{3}$ .
5. The total number of sections on the spinner is 4.  
The probability of landing on yellow is  $\frac{1}{4}$ .
6. The total number of marbles is  $30 + 20 + 10 = 60$ .  
The probability of picking a green marble is  $\frac{20}{60} = \frac{1}{3}$ .
7. The total number of fruits is  $18 + 12 + 30 = 60$ .  
The probability of picking an orange is  $\frac{12}{60} = \frac{1}{5}$ .
8. The total number of cards is  $10 + 10 + 10 + 10 = 40$ .  
The probability of picking a spade is  $\frac{10}{40} = \frac{1}{4}$ .
9. The total number of balls is 60.  
The probability of picking a yellow ball is  $\frac{20}{60} = \frac{1}{3}$ .  
After adding 20 more yellow balls, the number of yellow balls becomes 40. The total number of balls becomes 80.  
The new probability of picking a yellow ball is  $\frac{40}{80} = \frac{1}{2}$ .
10. The total number of marbles is  $25 + 35 + 40 = 100$ .  
The probability of picking a red marble is  $\frac{25}{100} = \frac{1}{4}$ .  
After adding 25 more red marbles, the number of red marbles becomes 50. The total number of marbles becomes 125. The new probability of picking a red marble is  $\frac{50}{125} = \frac{2}{5}$ .