

Name:

Due Date:

Teacher:

Parent Sign:

Intro to theoretical probability

1. A fair coin is flipped once. What is the probability of heads?
2. A fair six-sided die is rolled. What is the probability of rolling a 5?
3. A card is drawn at random from a standard 52-card deck. What is the probability of drawing a heart?
4. A card is drawn at random from a standard 52-card deck. What is the probability of drawing an ace?
5. A spinner has four equal sections: red, blue, green, yellow. What is the probability it lands on green?
6. A bag contains 3 red, 2 blue, and 5 green marbles. What is the probability of drawing a red marble?
7. Two fair six-sided dice are rolled. What is the probability the sum is 7?
8. A box contains the numbers 1 to 8 (one of each). What is the probability of picking an even number?
9. A number from 1 to 10 is chosen at random. What is the probability the number is a multiple of 3?
10. A bag has 5 blue and 5 yellow marbles. What is the probability of drawing a yellow marble?

Simple probability: yellow marble

11. A bag contains 4 yellow and 6 blue marbles. What is the probability of drawing a yellow marble?
12. From a bag of 10 marbles where 1 is yellow and 9 are other colors, what is the probability of drawing the yellow marble?
13. A bag has 3 yellow, 2 green, and 5 red marbles. What is the probability of drawing a yellow marble?
14. A jar has 12 marbles, 3 of which are yellow. What is the probability of drawing a yellow marble?
15. Out of 15 marbles, 7 are yellow and 8 are other colors. What is the probability of drawing a yellow marble?
16. A box has 20 marbles including 5 yellow ones. What is the probability of drawing a yellow marble?
17. A bag contains 6 yellow, 6 blue, and 6 red marbles. What is the probability of drawing a yellow marble?
18. A small jar contains 9 marbles, 2 of them yellow. What is the probability of drawing a yellow marble?

Simple probability: non-blue marble

19. A bag has 3 blue and 7 red marbles. What is the probability of drawing a non-blue marble?
20. Out of 12 marbles, 5 are blue and 7 are other colors. What is the probability of drawing a non-blue marble?
21. A bag contains 8 marbles and none are blue. What is the probability of drawing a non-blue marble?
22. A bag contains 4 blue, 4 green, and 2 yellow marbles. What is the probability of drawing a non-blue marble?
23. From 10 marbles where 2 are blue and 8 are other colors, what is the probability of drawing a non-blue marble?
24. A set has 6 blue, 3 red, and 1 white marble. What is the probability of drawing a non-blue marble?
25. A jar has 15 marbles, 5 of which are blue. What is the probability of drawing a non-blue marble?

Experimental probability

26. A coin is flipped 20 times and lands heads 14 times. What is the experimental probability of heads?
27. A spinner is spun 50 times and lands on red 30 times. What is the experimental probability of red?

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28. A six-sided die is rolled 60 times and shows a 6 sixteen times. What is the experimental probability of rolling a 6?
29. A coin is tossed 15 times and lands tails 6 times. What is the experimental probability of tails?
30. A marble is drawn from a bag 40 times (with replacement) and yellow appears 12 times. What is the experimental probability of yellow?
31. A die is rolled 30 times and an even number appears 18 times. What is the experimental probability of an even number?
32. A card is drawn (with replacement) 100 times and a king is drawn 8 times. What is the experimental probability of drawing a king?
33. A wheel is spun 24 times and lands on green 6 times. What is the experimental probability of green?
34. In a survey of 200 people, 50 say they like basketball. What is the experimental probability a randomly chosen person from the survey likes basketball?
35. A coin is tossed 10 times and lands heads 9 times. What is the experimental probability of heads?

Intuitive sense of probabilities

36. Which is larger: $\frac{1}{4}$ or $\frac{1}{3}$? Give the larger probability.
37. Which is larger: 0.25 or 0.6? Give the larger probability.
38. Which is larger: $\frac{2}{5}$ or $\frac{3}{10}$? Give the larger probability.
39. Which is larger: 0.9 or 0.99? Give the larger probability.
40. Which is smaller: $\frac{1}{100}$ or $\frac{1}{10}$? Give the smaller probability.
41. Which is larger: $\frac{1}{13}$ or $\frac{1}{4}$? Give the larger probability.
42. Which is larger: 0.5 or $\frac{3}{7}$? Give the larger probability.
43. From $\frac{1}{2}$, $\frac{1}{4}$, and $\frac{3}{4}$, which is the largest? Give that probability.
44. What number represents an impossible event?
45. What number represents a certain event?
46. Which is larger: 40% or $\frac{3}{7}$? Give the larger probability (as a fraction or decimal).
47. Which is closer to impossible: 0.05 or 0.15? Give that probability.
48. Which best represents an about-even chance: 0.5, 0.2, or 0.8? Give that probability.
49. Which is larger: probability of rolling a number less than 5 on a fair six-sided die, or probability of rolling a 4? Give the larger probability.
50. Convert $\frac{7}{10}$ to a percent.