

Grade 7 - Probability and Probability Models - Worksheet

Common Core 7.SP.C.5, 7.SP.C.6, 7.SP.C.7 · maths-pdf.fr/en/

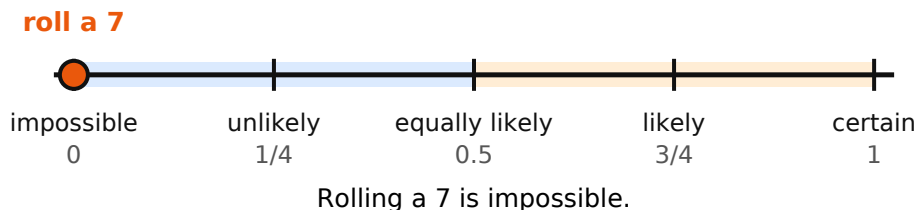
Name: _____ Class: _____ Date: ____/____/____

These 20 problems practice the likelihood scale from 0 to 1, relative frequency, theoretical probability, and uniform and non-uniform probability models (Common Core 7.SP.C.5-7). They start with the basic skill, move to different kinds of numbers and multistep work, and end with six word problems set in everyday situations such as shopping, sports, and travel.

Show every step of your work, and use the answer key only after you have tried each problem.

Grade 7 · Common Core State Standards: **7.SP.C.5, 7.SP.C.6, 7.SP.C.7**

Exercise 1 - Impossible event



A standard die has faces 1 through 6. Find the probability of rolling a 7. Is the event impossible, unlikely, likely, or certain?

Exercise 2 - One outcome

Find the probability of rolling a 4 on a fair die.

Exercise 3 - Even number

Find the probability of rolling an even number on a fair die.

Exercise 4 - Prime number

Find the probability of rolling a prime number on a fair die.

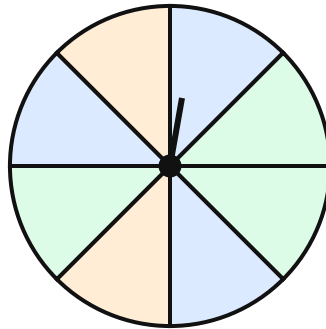
Exercise 5 - Marble bag

Color	Marbles
Red	5
Blue	3
Green	2
Total	10

A bag of 10 marbles.

A bag has 5 red, 3 blue, and 2 green marbles. Find $P(\text{red})$ and $P(\text{not red})$.

Exercise 6 - Spinner



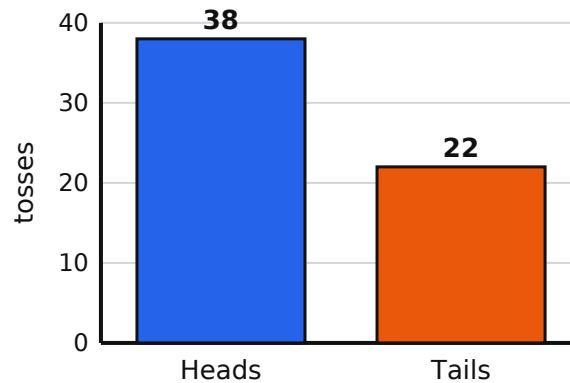
A spinner with 8 equal sections.

Three of the 8 equal sections are shaded blue. Find the probability that the spinner lands on blue.

Exercise 7 - Letter cards

Each letter of the word MATHEMATICS is written on a card, and one card is drawn at random. Find the probability that it is a vowel.

Exercise 8 - Relative frequency



60 coin tosses.

Maya tosses a coin 60 times and gets 38 heads. Find the relative frequency of heads as a fraction and a decimal. Compare with the theoretical probability.

Exercise 9 - Predict rainy days

The chance of rain on any day is 0.35. About how many rainy days do you expect in the next 20 days?

Exercise 10 - Spin results

Jamal spins a spinner 50 times: red 18, blue 12, green 20. Find the relative frequency of each color.

Exercise 11 - Missing probability

A spinner has three outcomes. $P(A) = 0.4$ and $P(B) = 0.3$. Find $P(C)$.

Exercise 12 - Expected rolls

A fair die is rolled 120 times. About how many times do you expect to roll a 5?

Exercise 13 - Complement

The probability that a bus is late is 0.35. Find the probability that it is not late.

Exercise 14 - Probability model

A model has outcomes with probabilities $\frac{1}{6}$, $\frac{1}{4}$, $\frac{1}{3}$, and x . Find x .

Exercise 15 - Snow days

The chance of snow on a winter day is 0.15. Predict the number of snow days in 60 winter days. Is snow likely or unlikely?

Exercise 16 - Free throws

Liam makes 36 of 48 free throws in practice. Find the relative frequency and predict how many he makes in 20 attempts.

Exercise 17 - Raffle

4 tickets 196 other tickets

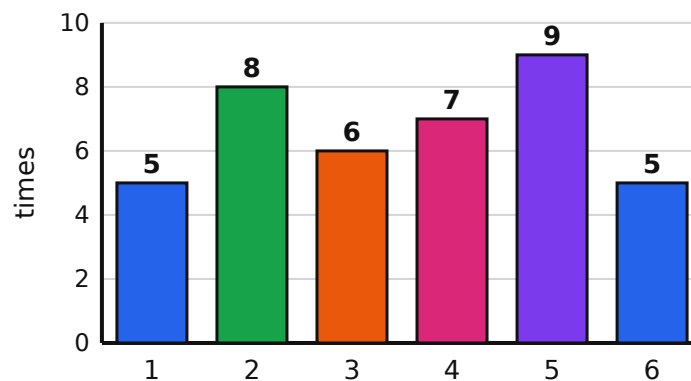
Sofia's tickets.

200 raffle tickets are sold and each is equally likely to win. Sofia buys 4 tickets. Find the probability that she wins, and write it as a fraction in simplest form and a percent.

Exercise 18 - Lunch choice

A spinner landed on green 14 times in 40 spins. Use the relative frequency to predict how many greens to expect in 100 spins.

Exercise 19 - Die experiment



Results of 40 rolls.

A die is rolled 40 times. Find the relative frequency of rolling a 5 and compare it with the theoretical probability.

Exercise 20 - Adding marbles

A bag has 5 red, 3 blue, and 2 green marbles. Two more red marbles are added. Find the new probability of drawing a red marble, and compare it with the old probability of $\frac{1}{2}$.