

Chance Check

Find probabilities from equally likely outcomes.

GRADE 7 • MA.7.DP.2.3

MA.7.DP.2.3 "Find the theoretical probability of an event related to a simple experiment."

NAME _____

DATE _____

THE PROBABILITY RULE

For equally likely outcomes, theoretical probability = favorable outcomes / total outcomes. Count the outcomes that match the event, then write the fraction in simplest form.

WORKED EXAMPLE

A pouch has 11 white tokens and 6 black tokens. One token is chosen at random. What is the probability of choosing a white token?

1. Favorable outcomes: 11 white tokens.
2. Total outcomes: $11 + 6 = 17$.
3. Probability = $11/17$.

Answer: 11/17

PRACTICE 5 problems

- 1** A fair coin is flipped. What is the probability of heads?

ANSWER _____

- 2** A spinner has 8 equal sections. Three sections are striped. What is the probability of landing on a striped section?

ANSWER _____

- 3** A bag has 4 purple marbles and 10 green marbles. What is the probability of choosing a purple marble?

ANSWER _____

- 4** Five cards are equally likely to be chosen. Two cards have a star. What is the probability of choosing a star card?

ANSWER _____

- 5** One letter tile is chosen from the letters in MATH. What is the probability of choosing a vowel?

ANSWER _____

APPLY IT Show your work

- 1** A music app chooses one song at random from a playlist of 14 songs. Five songs are pop songs. What is the probability that the app chooses a pop song?

WORK SPACE

ANSWER _____

- 2** A game has 16 possible badge rewards that are equally likely. Three badges are rare badges. What is the probability of earning a rare badge?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

A spinner has 12 equal sections: 5 blue, 4 red, and 3 yellow. What is the probability of not landing on red? Explain your reasoning.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	A fair coin is flipped. What is the probability of heads?	1/2
2	A spinner has 8 equal sections. Three sections are striped. What is the probability of landing on a striped section?	3/8
3	A bag has 4 purple marbles and 10 green marbles. What is the probability of choosing a purple marble?	2/7
4	Five cards are equally likely to be chosen. Two cards have a star. What is the probability of choosing a star card?	2/5
5	One letter tile is chosen from the letters in MATH. What is the probability of choosing a vowel?	1/4

PART 2 • APPLY IT

1. **5/14** There are 5 favorable pop songs out of 14 total songs. The probability is 5/14.
2. **3/16** There are 3 rare badges out of 16 equally likely rewards. The probability is 3/16.

CHALLENGE

2/3, because 8 of the 12 sections are not red, and $8/12 = 2/3$.

Accept equivalent fractions when they represent the same probability. Students should use favorable outcomes over total equally likely outcomes.