LESSON MAKER PRO

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

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.

WORK SPACE AND ANSWER

ANSWER KEY

Chance Check

GRADE 7 · MA.7.DP.2.3

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.