LESSON MAKER PRO

Chance Checkpoint

Build probability models from equally likely outcomes.

GRADE 7 · 7.PR.6

7.PR.6 "Using mathematical reasoning, investigate chance processes and develop, evaluate, and use probability models to find probabilities of simple events presented in authentic situations."

NAME _____ DATE _____

MODEL THE CHANCE

When outcomes are equally likely, probability is favorable outcomes / total outcomes. Count the outcomes that match the event, divide by all possible outcomes, and simplify the fraction.

WORKED EXAMPLE

A game app randomly selects one of 13 equal prize icons. Five icons show a star. What is P(star)?

1. Favorable outcomes: 5 star icons.
2. Total outcomes: 13 prize icons.
3. P(star) = 5/13.

Answer: 5/13

PRACTICE 6 problems

1 A spinner has 12 equal sections. Three sections are orange. What is P(orange)?

ANSWER _____

2 A bag holds 8 same-sized tokens. Two tokens have triangles, and the rest have circles. What is P(triangle)?

ANSWER _____

3 You flip a fair coin once. What is P(heads)?

ANSWER _____

4 You roll a standard fair number cube once. What is P(rolling an odd number)?

ANSWER _____

5 A playlist app randomly chooses 1 of 21 songs. Nine songs are instrumental. What is P(instrumental)?

ANSWER _____

6 A calendar app randomly displays one month of the year. What is P(the month has 31 days)?

ANSWER _____

APPLY IT Show your work

1 A library audiobook app has 16 featured titles. Six titles are mysteries. The app randomly recommends one featured title. What is the probability that it recommends a mystery?

WORK SPACE

ANSWER _____

2 A robotics club giveaway has 27 entries. Twelve entries belong to seventh graders, and the rest belong to eighth graders. One entry is chosen at random. What is the probability that a seventh grader wins?

WORK SPACE

ANSWER _____

CHALLENGE One step up

Two game booths each use a fair prize wheel with equal sections. Booth A has 18 sections, with 6 prize sections. Booth B has 24 sections, with 9 prize sections. Which booth gives you a greater probability of winning a prize? Explain by comparing the probabilities.

WORK SPACE AND ANSWER

ANSWER KEY

Chance Checkpoint

GRADE 7 · 7.PR.6

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	A spinner has 12 equal sections. Three sections are orange. What is P(orange)?	**1/4**
2	A bag holds 8 same-sized tokens. Two tokens have triangles, and the rest have circles. What is P(triangle)?	**1/4**
3	You flip a fair coin once. What is P(heads)?	**1/2**
4	You roll a standard fair number cube once. What is P(rolling an odd number)?	**1/2**
5	A playlist app randomly chooses 1 of 21 songs. Nine songs are instrumental. What is P(instrumental)?	**3/7**
6	A calendar app randomly displays one month of the year. What is P(the month has 31 days)?	**7/12**

PART 2 · APPLY IT

1. **3/8** There are 6 favorable mystery titles out of 16 total titles. The probability is 6/16 = 3/8.
2. **4/9** There are 12 seventh-grade entries out of 27 total entries. The probability is 12/27 = 4/9.

CHALLENGE

Booth B. Booth A has P(prize) = 6/18 = 1/3 = 8/24. Booth B has P(prize) = 9/24, and 9/24 > 8/24.

Accept equivalent fractions for all probability answers, although simplified fractions are preferred. For the challenge, accept any correct comparison that shows Booth B has the greater probability.