LESSON MAKER PRO

Chance in Action

Use trial results to estimate probability.

HIGH SCHOOL · A1.D.2.3

A1.D.2.3 "Use simulations and experiments to calculate experimental probabilities."

NAME _____ DATE _____

EXPERIMENTAL PROBABILITY

A simulation or experiment gives you trial results. To find the experimental probability of an event, divide the number of times it happened by the total number of trials.

WORKED EXAMPLE

A wheel is spun in 20 simulated trials. Use the table to find the experimental probability of blue.

WHEEL RESULTS

Result	Spins
Blue	7
Not blue	13

1. Total spins: 7 + 13 = 20.
2. Blue spins: 7.
3. Experimental P(blue) = 7/20.

Answer: 7/20

PRACTICE 4 problems

1 A coin simulator shows heads on 9 of 30 flips. Find the experimental probability of heads.

ANSWER _____

2 A pop song plays first in 12 of 16 playlist shuffles. Find the experimental probability that a pop song plays first.

ANSWER _____

3 A player makes 15 of 25 free throws. Find the experimental probability of making a free throw.

ANSWER _____

4 A spinner lands on green 8 times in 40 spins. Find the experimental probability of green.

ANSWER _____

APPLY IT Show your work

1 A student opens 28 mystery boxes in a game. Use the results to estimate the probability that the next box has a bonus item.

MYSTERY BOX RESULTS

Item	Boxes
Bonus	5
Regular	23

ANSWER _____

2 At a school carnival, a prize wheel lands on a free snack 11 times in 44 spins. Estimate the probability of a free snack on the next spin.

WORK SPACE

ANSWER _____

CHALLENGE One step up

In 45 simulated two-round games, a player wins both rounds 9 times and wins only the first round 15 times. Find the experimental probability of winning both rounds. Then find the experimental probability of winning the second round given a win in the first.

WORK SPACE AND ANSWER

ANSWER KEY

Chance in Action

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PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	A coin simulator shows heads on 9 of 30 flips. Find the experimental probability of heads.	**3/10**
2	A pop song plays first in 12 of 16 playlist shuffles. Find the experimental probability that a pop song plays first.	**3/4**
3	A player makes 15 of 25 free throws. Find the experimental probability of making a free throw.	**3/5**
4	A spinner lands on green 8 times in 40 spins. Find the experimental probability of green.	**1/5**

PART 2 · APPLY IT

1. **5/28** There were 5 bonus items in 28 boxes, so the experimental probability is 5/28.
2. **1/4** Divide 11 free-snack results by 44 spins: 11/44 = 1/4.

CHALLENGE

P(win both) = 9/45 = 1/5; P(win second given win first) = 9/(9 + 15) = 3/8.

Accept equivalent fractions or exact decimals. For the challenge, the second probability uses only games in which the player won the first round.