LESSON MAKER PRO

Predict the Next Round

Use results to estimate what may happen next.

GRADE 8 · PA.D.2

PA.D.2 "Calculate experimental probabilities and reason about probabilities to model and solve problems. Calculate experimental probabilities and represent them as percents, fractions, and decimals between 0 and 1..."

NAME _____ DATE _____

FROM RESULTS TO PREDICTIONS

Experimental probability is the number of times an event happens divided by the total number of trials. Write the fraction as a decimal and percent, then use it to predict results if the same rate continues.

WORKED EXAMPLE

A player takes these free throws. Find the experimental probability of a make as a fraction, decimal, and percent.

FREE THROWS

Result	Count
Made	9
Missed	11

1. Total shots: 9 + 11 = 20
2. Fraction: 9/20
3. Decimal: 9 ÷ 20 = 0.45
4. Percent: 0.45 = 45%

Answer: 9/20, 0.45, 45%

PRACTICE 4 problems

1 A player wins 7 of 10 rounds. Write the experimental win probability as a fraction, decimal, and percent.

ANSWER _____

2 You skip 8 of 25 songs. What is the experimental probability of a skip as a decimal and percent?

ANSWER _____

3 A player scores on 6 of 16 shots. Write the experimental probability as a fraction in simplest form and a percent.

ANSWER _____

4 A team wins 13 of 50 matches. At the same rate, about how many of its next 200 matches will it win?

ANSWER _____

APPLY IT Show your work

1 At a school esports night, 14 of 40 players choose a puzzle game. If the same rate holds for 120 players, about how many will choose it?

WORK SPACE

ANSWER _____

2 A music club asks 18 members about live shows. Of those, 12 prefer live shows. Use this rate to predict how many of 150 eighth graders prefer them. Why might the prediction be inaccurate?

WORK SPACE

ANSWER _____

CHALLENGE One step up

A player wins 28 of 80 rounds, then wins 54 of 120 more rounds. Using all the rounds, predict how many of the next 300 rounds the player will win.

WORK SPACE AND ANSWER

ANSWER KEY

Predict the Next Round

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PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	A player wins 7 of 10 rounds. Write the experimental win probability as a fraction, decimal, and percent.	**7/10, 0.7, 70%**
2	You skip 8 of 25 songs. What is the experimental probability of a skip as a decimal and percent?	**0.32, 32%**
3	A player scores on 6 of 16 shots. Write the experimental probability as a fraction in simplest form and a percent.	**3/8, 37.5%**
4	A team wins 13 of 50 matches. At the same rate, about how many of its next 200 matches will it win?	**52 matches**

PART 2 · APPLY IT

1. **42 players** 14/40 × 120 = 42.
2. **100 students. Music club members may not represent all eighth graders.** 12/18 × 150 = 100. The sample comes only from the music club, so its preferences may be biased.

CHALLENGE

123 rounds, since 82/200 × 300 = 123.

Accept equivalent fractions and decimals where appropriate. Predictions assume the observed rate continues.