LESSON MAKER PRO

Trial Trend Tracker

See how experimental probability shifts with more trials.

GRADE 7 · 7.PS.1.c

7.PS.1.c "Describe changes in the experimental probability as the number of trials increases."

NAME _____ DATE _____

TRACK THE NEW FRACTION

Experimental probability = number of times an outcome occurs / total trials. When more trials are added, use the new outcome count and new total. The probability may increase, decrease, or stay the same.

WORKED EXAMPLE

A coin lands heads 9 times in the first 12 flips. After 24 flips total, it has landed heads 17 times. Describe the change.

1. First probability: 9/12 = 3/4.
2. After 24 flips: 17/24.
3. Rewrite 3/4 as 18/24.
4. 17/24 is less than 18/24, so the probability decreased.

Answer: It decreased from 3/4 to 17/24.

PRACTICE 5 problems

1 A 2 appears twice in 6 die rolls. After 20 rolls total, a 2 has appeared 7 times. Find both probabilities. Did it increase, decrease, or stay the same?

ANSWER _____

2 A spinner lands on green 5 times in 10 spins. After 25 spins total, it has landed on green 11 times. Describe the change.

ANSWER _____

3 A player makes 8 baskets in 16 shots. After 30 shots total, the player has made 15 baskets. Describe the change.

ANSWER _____

4 A game character finds a rare item 7 times in 14 attempts. After 28 attempts total, it has found the item 13 times. Describe the change.

ANSWER _____

5 A bag is sampled 20 times, and red is chosen 6 times. After 40 samples total, red has been chosen 14 times. Describe the change.

ANSWER _____

APPLY IT Show your work

1 Jalen tracks free-throw makes in a basketball video game. After 25 shots, 10 go in. After 50 shots total, 23 go in. Find each experimental probability and describe the change.

WORK SPACE

ANSWER _____

2 A music club tracks songs chosen for a playlist. Of the first 35 songs, 21 are hip-hop. Of the first 70 songs total, 40 are hip-hop. Find each experimental probability and describe the change.

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

In an arcade game, a player gets a bonus in 5 of the first 8 rounds, 11 of the first 20 rounds, and 29 of the first 50 rounds. Find all three experimental probabilities. Explain what the changes show about adding trials.

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ANSWER KEY

Trial Trend Tracker

GRADE 7 · 7.PS.1.c

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	A 2 appears twice in 6 die rolls. After 20 rolls total, a 2 has appeared 7 times. Find both probabilities. Did it increase, decrease, or stay the same?	**2/6 = 1/3; 7/20. It increased.**
2	A spinner lands on green 5 times in 10 spins. After 25 spins total, it has landed on green 11 times. Describe the change.	**5/10 = 1/2; 11/25. It decreased.**
3	A player makes 8 baskets in 16 shots. After 30 shots total, the player has made 15 baskets. Describe the change.	**8/16 = 1/2; 15/30 = 1/2. It stayed the same.**
4	A game character finds a rare item 7 times in 14 attempts. After 28 attempts total, it has found the item 13 times. Describe the change.	**7/14 = 1/2; 13/28. It decreased.**
5	A bag is sampled 20 times, and red is chosen 6 times. After 40 samples total, red has been chosen 14 times. Describe the change.	**6/20 = 3/10; 14/40 = 7/20. It increased.**

PART 2 · APPLY IT

1. **10/25 = 2/5; 23/50. It increased.** Rewrite 2/5 as 20/50. Since 23/50 is greater than 20/50, the probability increased.
2. **21/35 = 3/5; 40/70 = 4/7. It decreased.** Rewrite 3/5 as 21/35 and 4/7 as 20/35. Since 20/35 is less than 21/35, the probability decreased.

CHALLENGE

5/8, 11/20, 29/50. The probability decreases from 5/8 to 11/20, then increases to 29/50. More trials do not force the probability to change in only one direction.

Accept equivalent fractions and accurate comparison language. For the challenge, accept explanations that more trials can make experimental probability increase, decrease, or stay the same.