LESSON MAKER PRO

Chance Scale

Find probabilities and describe how likely events are.

GRADE 7 · 7.SP.C.5

CCSS.Math.Content.7.SP.C.5 "Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event..."

NAME _____ DATE _____

THE BIG IDEA

Probability is a number from 0 to 1. Values near 0 are unlikely, values around 1/2 are neither unlikely nor likely, and values near 1 are likely.

WORKED EXAMPLE

A music queue has 7 hip-hop tracks and 4 rock tracks. One track plays at random. Find P(hip-hop).

1. Total tracks: 7 + 4 = 11.
2. Favorable tracks: 7.
3. P(hip-hop) = 7/11.
4. Since 7/11 > 1/2, hip-hop is more likely than not.

Answer: 7/11, more likely than not

PRACTICE 5 problems

1 A bag has 2 red, 6 blue, and 5 yellow tokens. One token is selected. Find P(red) and describe its likelihood.

ANSWER _____

2 A fair coin is flipped. Find P(tails) and describe its likelihood.

ANSWER _____

3 A jar holds 9 white beads and 1 black bead. Find P(white) and describe its likelihood.

ANSWER _____

4 A random digit is selected from 0 through 9. Find P(selecting 0) and describe its likelihood.

ANSWER _____

5 A box holds 5 purple tickets and 5 orange tickets. Find P(purple) and describe its likelihood.

ANSWER _____

APPLY IT Show your work

1 At an esports club, 10 of 12 raffle cards offer a game-time pass. A card is drawn at random. What is P(pass)? Is a pass likely?

WORK SPACE

ANSWER _____

2 At a talent show, 3 of 20 song-request slips ask for your favorite song. One slip is picked at random. What is P(your favorite song)? Describe its likelihood.

WORK SPACE

ANSWER _____

CHALLENGE One step up

Three online game reward packs contain collectible cards. Pack A has 2 rare and 8 common cards. Pack B has 5 rare and 10 common cards. Pack C has 1 rare and 9 common cards. Which pack gives the greatest chance of a rare card? Show the probability for each pack and explain.

WORK SPACE AND ANSWER

ANSWER KEY

Chance Scale

GRADE 7 · 7.SP.C.5

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	A bag has 2 red, 6 blue, and 5 yellow tokens. One token is selected. Find P(red) and describe its likelihood.	**2/13, unlikely**
2	A fair coin is flipped. Find P(tails) and describe its likelihood.	**1/2, neither unlikely nor likely**
3	A jar holds 9 white beads and 1 black bead. Find P(white) and describe its likelihood.	**9/10, likely**
4	A random digit is selected from 0 through 9. Find P(selecting 0) and describe its likelihood.	**1/10, unlikely**
5	A box holds 5 purple tickets and 5 orange tickets. Find P(purple) and describe its likelihood.	**1/2, neither unlikely nor likely**

PART 2 · APPLY IT

1. **5/6, likely** There are 10 favorable cards out of 12 total cards. Simplify 10/12 to 5/6, which is near 1.
2. **3/20, unlikely** There are 3 favorable slips out of 20 total slips. The probability 3/20 is near 0.

CHALLENGE

Pack B. Pack A: 1/5, Pack B: 1/3, Pack C: 1/10. Since 1/3 is greater than 1/5 and 1/10, Pack B gives the greatest chance.

Accept equivalent fractions, such as 10/12 for 5/6. Accept likelihood descriptions that correctly connect probabilities near 0, 1/2, and 1 to the stated categories.