LESSON MAKER PRO

Chance Check

Find and compare the chances of everyday events.

GRADE 7 · 7.DS.C.4

7.DS.C.4 "Explain that a probability of 0 means the event is impossible, 1 means it is certain, and values closer to 0 or 1 indicate how unlikely or likely the event is..."

NAME _____ DATE _____

READING PROBABILITY

A probability of 0 means impossible, and a probability of 1 means certain. For equally likely outcomes, divide the number you want by the total number of outcomes. Values closer to 0 are less likely, values closer to 1 are more likely, and 1/2 means equally likely.

WORKED EXAMPLE

One ticket is picked at random. Find P(star). Is picking a star likely or unlikely?

TICKETS

Type	Number
Star	7
Plain	13

1. Total tickets: 7 + 13 = 20.
2. P(star) = 7/20.
3. 7/20 is less than 1/2, so a star is unlikely.

Answer: 7/20, unlikely

PRACTICE 4 problems

1 A bag has 2 gold beads and 4 black beads. Find P(gold). Is it likely or unlikely?

ANSWER _____

2 A spinner has 10 equal sections: 9 orange and 1 purple. Find P(orange). Is it likely or unlikely?

ANSWER _____

3 A jar has 6 blue marbles and no red marbles. Find P(red). What does it mean?

ANSWER _____

4 A box holds 12 pencils, all sharpened. Find P(sharpened). What does it mean?

ANSWER _____

APPLY IT Show your work

1 An arcade box has 10 racing cards and 6 puzzle cards. You draw one at random. Find P(racing) and P(puzzle). Which is more likely?

WORK SPACE

ANSWER _____

2 A game app picks one daily reward at random from the table. Find P(not coins). Is it likely or unlikely?

DAILY REWARDS

Reward	Number
Coins	9
Avatar	4
Bonus level	2

ANSWER _____

CHALLENGE One step up

A school raffle has 18 equal-chance tickets: 8 win stickers, 6 win keychains, and 4 win nothing. Jay says winning any prize is unlikely because each prize type has a chance below 1/2. Is Jay right? Find P(any prize) and explain.

WORK SPACE AND ANSWER

ANSWER KEY

Chance Check

GRADE 7 · 7.DS.C.4

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	A bag has 2 gold beads and 4 black beads. Find P(gold). Is it likely or unlikely?	**1/3, unlikely**
2	A spinner has 10 equal sections: 9 orange and 1 purple. Find P(orange). Is it likely or unlikely?	**9/10, likely**
3	A jar has 6 blue marbles and no red marbles. Find P(red). What does it mean?	**0; picking red is impossible.**
4	A box holds 12 pencils, all sharpened. Find P(sharpened). What does it mean?	**1; picking a sharpened pencil is certain.**

PART 2 · APPLY IT

1. **P(racing) = 5/8; P(puzzle) = 3/8. Racing is more likely.** There are 16 cards. Divide each type's count by 16, then compare the fractions.
2. **2/5, unlikely** There are 4 + 2 = 6 rewards that are not coins out of 15 total. P(not coins) = 6/15 = 2/5, which is less than 1/2.

CHALLENGE

No. P(any prize) = (8 + 6)/18 = 7/9, which is greater than 1/2. Winning any prize is likely.

Accept equivalent fractions and decimals. For the challenge, the explanation must combine both prize types.