LESSON MAKER PRO

Which Outcomes Count?

Turn event descriptions into sets of possible results.

GRADE 7 · 7A.DSP.C.32.c

7A.DSP.C.32.c "Represent events described in everyday language in terms of outcomes in the sample space which composed the event."

NAME _____ DATE _____

DESCRIBE THE EVENT

A sample space lists every possible outcome, and an event contains the outcomes that fit a description. For an event with "and," keep outcomes that meet both conditions. For "or," include outcomes that meet either condition or both.

WORKED EXAMPLE

Tickets numbered 41, 42, 43, 44, and 45 are in a bag. One ticket is drawn. List the outcomes for the event "the ticket is odd and greater than 42."

1. The sample space is {41, 42, 43, 44, 45}.
2. The tickets greater than 42 are 43, 44, and 45.
3. Of those tickets, 43 and 45 are odd.

Answer: {43, 45}

PRACTICE 6 problems

1 A bag holds tokens numbered 2, 4, 6, 8, and 10. One token is drawn. List the outcomes for the event "the number is a multiple of 4."

ANSWER _____

2 A club meeting day is chosen from Monday, Tuesday, Wednesday, Thursday, and Friday. List the outcomes for the event "the day starts with T."

ANSWER _____

3 A wristband color is chosen from red, blue, green, and yellow. List the outcomes for the event "the color starts with b or ends with n."

ANSWER _____

4 A digit is chosen from 0 through 9. List the outcomes for the event "the digit is greater than 5 and even."

ANSWER _____

5 Flip a coin and roll a four-sided die numbered 1 through 4. Write H for heads or T for tails, followed by the die number. List the outcomes for the event "the coin shows tails or the die shows 3."

ANSWER _____

6 Flip a coin twice. Use H for heads and T for tails. The sample space is {HH, HT, TH, TT}, with the first flip written first. List the outcomes for the event "the second flip is tails or both flips match."

ANSWER _____

APPLY IT Show your work

1 A dance playlist randomly picks one clip from {pop A, pop B, rock A, rock B, jazz A, jazz B}. List the outcomes for the event "the clip is rock or version B."

WORK SPACE

ANSWER _____

2 At a sneaker customizer, you choose laces in black, white, or neon and soles in black or white. Any lace and sole combination is possible. List the outcomes for the event "the laces and soles match or the laces are neon." Write each outcome as (laces, soles).

WORK SPACE

ANSWER _____

CHALLENGE One step up

An app makes a two-letter code by choosing each letter from A, B, and C. A letter can be chosen twice, and order matters. List all outcomes for the event "exactly one letter is A or both letters match." Explain why each outcome belongs.

WORK SPACE AND ANSWER

ANSWER KEY

Which Outcomes Count?

GRADE 7 · 7A.DSP.C.32.c

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	A bag holds tokens numbered 2, 4, 6, 8, and 10. One token is drawn. List the outcomes for the event "the number is a multiple of 4."	**{4, 8}**
2	A club meeting day is chosen from Monday, Tuesday, Wednesday, Thursday, and Friday. List the outcomes for the event "the day starts with T."	**{Tuesday, Thursday}**
3	A wristband color is chosen from red, blue, green, and yellow. List the outcomes for the event "the color starts with b or ends with n."	**{blue, green}**
4	A digit is chosen from 0 through 9. List the outcomes for the event "the digit is greater than 5 and even."	**{6, 8}**
5	Flip a coin and roll a four-sided die numbered 1 through 4. Write H for heads or T for tails, followed by the die number. List the outcomes for the event "the coin shows tails or the die shows 3."	**{H3, T1, T2, T3, T4}**
6	Flip a coin twice. Use H for heads and T for tails. The sample space is {HH, HT, TH, TT}, with the first flip written first. List the outcomes for the event "the second flip is tails or both flips match."	**{HH, HT, TT}**

PART 2 · APPLY IT

1. **{pop B, rock A, rock B, jazz B}** Include both rock clips and every version B clip. Rock B meets both conditions but is listed only once.
2. **{(black, black), (white, white), (neon, black), (neon, white)}** The matching combinations use black or white laces. Both sole choices work with neon laces.

CHALLENGE

{AA, AB, AC, BA, BB, CA, CC}. AB, AC, BA, and CA have exactly one A; AA, BB, and CC have matching letters.

Accept outcomes in any order. For events with "or," an outcome that meets both conditions should appear only once.