LESSON MAKER PRO

Math Claim Detectives

Solve, check, and defend each answer.

GRADE 3 · 3.MP.3

3.MP.3 "Construct viable arguments and critique the reasoning of others."

NAME _____ DATE _____

MAKE IT MAKE SENSE

A viable math argument has a correct equation and a check that matches the story. Solve the situation, then use an opposite operation or a related fact to decide whether a claim makes sense.

WORKED EXAMPLE

At an art club, 28 beads are in a tray. Mia says that using 13 beads leaves 16 beads. Is Mia's argument viable? Show why.

1. Subtract 10: 28 - 10 = 18.
2. Subtract 3: 18 - 3 = 15.
3. Check: 13 + 15 = 28.
4. Mia's claim gives 13 + 16 = 29.

Answer: No. 15 beads are left, so Mia's argument is not viable.

PRACTICE 6 problems

1 A library has 42 new books. After 17 books are checked out, Noah says 25 books remain. Is Noah's argument viable? Write a check.

ANSWER _____

2 A chicken farm packs 54 eggs equally into 6 cartons. Lia says each carton gets 8 eggs with no leftovers. Is Lia's argument viable? Write a multiplication check.

ANSWER _____

3 During a video game tournament, Sam has 39 points and earns 24 more points. Sam says the total is 63 points. Is Sam's argument viable? Write a check.

ANSWER _____

4 A class shares 72 stickers equally among 9 students. Omar says each student gets 7 stickers because 9 x 7 = 63. Is Omar's argument viable? Explain with a correct fact.

ANSWER _____

5 A pet shelter has 58 cans of food. It serves 21 cans to pets. Eli says 37 cans are left. Is Eli's argument viable? Write a check.

ANSWER _____

6 A teacher puts 45 markers into packs of 5. Maya says there will be 10 packs because 5 x 10 = 50. Is Maya's argument viable? Explain with a correct fact.

ANSWER _____

APPLY IT Show your work

1 At a school book fair, 67 bookmarks are on a table. Then 23 bookmarks are given away. Priya says 44 bookmarks remain. Jordan says 45 bookmarks remain because 67 - 22 = 45. Which argument is viable? Show a subtraction check.

WORK SPACE

ANSWER _____

2 A youth soccer team has 84 water bottles to pack equally into 7 crates. Devon says each crate gets 11 bottles. Rosa says each crate gets 12 bottles. Which argument is viable? Use a multiplication check.

WORK SPACE

ANSWER _____

CHALLENGE One step up

A music club puts 96 glow sticks equally into 8 bags. Kai says each bag gets 12 glow sticks because 8 x 12 = 96. Lee says each bag gets 14 glow sticks because 8 x 14 = 112. Whose argument is viable? Explain why the other argument is not viable.

WORK SPACE AND ANSWER

ANSWER KEY

Math Claim Detectives

GRADE 3 · 3.MP.3

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	A library has 42 new books. After 17 books are checked out, Noah says 25 books remain. Is Noah's argument viable? Write a check.	**Yes. 42 - 17 = 25, and 25 + 17 = 42.**
2	A chicken farm packs 54 eggs equally into 6 cartons. Lia says each carton gets 8 eggs with no leftovers. Is Lia's argument viable? Write a multiplication check.	**No. Each carton gets 9 eggs because 6 x 9 = 54. Lia's claim gives 6 x 8 = 48.**
3	During a video game tournament, Sam has 39 points and earns 24 more points. Sam says the total is 63 points. Is Sam's argument viable? Write a check.	**Yes. 39 + 24 = 63, and 63 - 24 = 39.**
4	A class shares 72 stickers equally among 9 students. Omar says each student gets 7 stickers because 9 x 7 = 63. Is Omar's argument viable? Explain with a correct fact.	**No. Each student gets 8 stickers because 9 x 8 = 72.**
5	A pet shelter has 58 cans of food. It serves 21 cans to pets. Eli says 37 cans are left. Is Eli's argument viable? Write a check.	**Yes. 58 - 21 = 37, and 37 + 21 = 58.**
6	A teacher puts 45 markers into packs of 5. Maya says there will be 10 packs because 5 x 10 = 50. Is Maya's argument viable? Explain with a correct fact.	**No. There will be 9 packs because 5 x 9 = 45.**

PART 2 · APPLY IT

1. **Priya's argument is viable.** 67 - 23 = 44, and 44 + 23 = 67. Subtract the number given away from the starting number. Check by adding the remaining bookmarks and the given-away bookmarks.
2. **Rosa's argument is viable.** 7 x 12 = 84. Devon's claim gives 7 x 11 = 77. Divide 84 by 7, then multiply the proposed number in each crate by 7. Only Rosa's multiplication check matches the total.

CHALLENGE

Kai's argument is viable because 8 x 12 = 96. Lee's argument is not viable because 8 x 14 = 112, not 96.

Accept equivalent equations, related-fact checks, or clear written explanations that identify the correct claim. Students should show why an incorrect claim does not match the numbers in the situation.