LESSON MAKER PRO

Math Claim Detectives

Use evidence to prove or question a solution.

GRADE 6 · 6.MP.3

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

NAME _____ DATE _____

BUILD AND CHECK ARGUMENTS

A strong math argument shows the calculation and explains why it fits the situation. To critique a claim, check each step, find any error, and state the correct conclusion with evidence.

WORKED EXAMPLE

A community garden has 5 trays with 23 seedlings in each tray. Elena says there are 105 seedlings. Is Elena correct?

1. Break 23 into 20 + 3.
2. Multiply: 5 x 20 = 100 and 5 x 3 = 15.
3. Add: 100 + 15 = 115.
4. Elena's total does not match 115.

Answer: No. There are 115 seedlings.

PRACTICE 6 problems

1 A snack booth packs 4 boxes with 18 pretzels in each box. Liam says there are 62 pretzels because 4 x 10 = 40 and 4 x 8 = 22. Is Liam correct? Explain.

ANSWER _____

2 A club shares 96 stickers equally among 8 teams. Maya says each team gets 11 stickers because 8 x 11 = 88. Critique Maya's reasoning.

ANSWER _____

3 A runner completes 14 laps that are each 2/7 mile long. Rosa says the runner traveled 4 miles. Is Rosa's claim viable? Show why.

ANSWER _____

4 A cooking club uses 4/9 cup of juice in each of 9 batches. Theo says the club used 4/81 cup because he multiplied the denominators. Is Theo correct? Explain.

ANSWER _____

5 A video club has 48 minutes to divide equally among 6 short videos. Omar says each video can be 7 minutes long. Is his answer correct? Defend your decision.

ANSWER _____

6 A student buys 6 notebooks that cost $4 each and uses one $2 coupon on the whole purchase. Nia says the total is $12 because the coupon takes $2 off each notebook. Critique Nia's claim.

ANSWER _____

APPLY IT Show your work

1 At a school esports event, a club has $84 for prizes. The club buys 6 prizes that cost $9 each, then splits the money left equally among 4 winners. A student says each winner gets $7. Is the student correct? Show an argument that supports your answer.

WORK SPACE

ANSWER _____

2 A card game group opens 4 packs with 24 cards in each pack. The group gives 18 cards to volunteers, then shares the remaining cards equally among 6 players. Mina says each player gets 10 cards. Is Mina correct? Explain using calculations.

WORK SPACE

ANSWER _____

CHALLENGE One step up

A tablet needs space for 14 downloaded episodes. Each episode uses 4/7 GB. The tablet already has 1 1/2 GB of free space. Kai says the user must clear 8 GB, while Noor says the user must clear 6 1/2 GB. Whose argument is correct? Explain why the other argument is incomplete.

WORK SPACE AND ANSWER

ANSWER KEY

Math Claim Detectives

GRADE 6 · 6.MP.3

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	A snack booth packs 4 boxes with 18 pretzels in each box. Liam says there are 62 pretzels because 4 x 10 = 40 and 4 x 8 = 22. Is Liam correct? Explain.	**No. 4 x 8 = 32, so 4 x 18 = 40 + 32 = 72 pretzels.**
2	A club shares 96 stickers equally among 8 teams. Maya says each team gets 11 stickers because 8 x 11 = 88. Critique Maya's reasoning.	**Maya is not correct. Since 96 ÷ 8 = 12, each team gets 12 stickers. Her multiplication only accounts for 88 stickers.**
3	A runner completes 14 laps that are each 2/7 mile long. Rosa says the runner traveled 4 miles. Is Rosa's claim viable? Show why.	**Yes. 14 x 2/7 = 28/7 = 4, so the runner traveled 4 miles.**
4	A cooking club uses 4/9 cup of juice in each of 9 batches. Theo says the club used 4/81 cup because he multiplied the denominators. Is Theo correct? Explain.	**No. 4/9 x 9 = 4 cups because the 9 batches cancel the denominator of 9.**
5	A video club has 48 minutes to divide equally among 6 short videos. Omar says each video can be 7 minutes long. Is his answer correct? Defend your decision.	**No. 48 ÷ 6 = 8, so each video can be 8 minutes long. Six videos of 7 minutes use only 42 minutes.**
6	A student buys 6 notebooks that cost $4 each and uses one $2 coupon on the whole purchase. Nia says the total is $12 because the coupon takes $2 off each notebook. Critique Nia's claim.	**Nia is not correct. The notebooks cost 6 x $4 = $24, and one $2 coupon makes the total $22.**

PART 2 · APPLY IT

1. **No. Each winner gets $7.50.** The prizes cost 6 x $9 = $54, leaving $84 - $54 = $30. Then $30 ÷ 4 = $7.50.
2. **No. Each player gets 13 cards.** There are 4 x 24 = 96 cards at first. After giving away 18, 78 remain, and 78 ÷ 6 = 13.

CHALLENGE

Noor is correct. The episodes need 14 x 4/7 = 8 GB total, but 1 1/2 GB is already free, so the user must clear 6 1/2 GB. Kai did not subtract the free space.

Accept equivalent calculations and clear verbal explanations that identify the relevant error or confirm why the claim works. Accept 6.5 GB for 6 1/2 GB and $7.50 for seven dollars and fifty cents.