LESSON MAKER PRO

Pack, Share, Check

Solve in steps and decide what a remainder means.

GRADE 4 · 4.OA.A.3

4.OA.A.3 "Determine and justify solutions for multi-step word problems, including problems where remainders must be interpreted. a. Write equations to show solutions for multi-step word problems with a letter standing for the unknown quantity. b..."

NAME _____ DATE _____

WHAT DOES THE REMAINDER MEAN?

Solve a word problem one step at a time, and use ___ for the amount you need to find. When you divide, decide whether the remainder is left over or means you need one more group. Estimate to check whether your answer makes sense.

WORKED EXAMPLE

A club has 53 buttons and gets 24 more. Each pouch holds 6 buttons. How many pouches are needed to hold them all?

1. 53 + 24 = 77 buttons
2. 77 / 6 = 12 R5
3. The 5 buttons left over need another pouch.
4. ___ = 12 + 1 = 13

Answer: 13 pouches

PRACTICE 6 problems

1 A bakery makes 4 trays of 18 muffins. It sells 29 muffins. Write an equation with ___ for the muffins left, then solve.

ANSWER _____

2 A teacher opens 3 packs of 28 pencils and shares them equally among 9 students. Write equations with ___ for the pencils each student gets. How many are left over?

ANSWER _____

3 A trip has 46 students and 19 adults. Each van holds 8 people. Write equations with ___ for the vans needed, then solve.

ANSWER _____

4 Seven teams get 14 tickets each. They return 31 tickets they do not use. Write an equation with ___ for the tickets used, then solve.

ANSWER _____

5 An art club has 96 beads. It uses 17 beads for each of 4 projects. Write an equation with ___ for the beads left, then solve.

ANSWER _____

6 A club has 41 postcards and makes 23 more. Each envelope holds 10 postcards. Write equations with ___ for the envelopes needed to pack them all, then solve.

ANSWER _____

APPLY IT Show your work

1 A reading club has 8 boxes of 36 bookmarks. After giving away 49 bookmarks, it shares the rest equally among 7 classrooms. How many bookmarks does each classroom get, and how many are left over? Write an equation with ___ for the number each classroom gets. Use an estimate to check.

WORK SPACE

ANSWER _____

2 For a game day, 27 players each need 4 tokens. The club already has 16 tokens and can buy more only in packs of 20. How many packs must the club buy? Write equations with ___ for the packs needed. Use an estimate to check.

WORK SPACE

ANSWER _____

CHALLENGE One step up

A school needs buses for 352 students and 17 teachers. Each bus holds 42 people. The school has reserved 3 buses. A student says 5 more buses will be enough. Is the student correct? Write equations with ___ for the number of additional buses needed. Explain why your answer is reasonable.

WORK SPACE AND ANSWER

ANSWER KEY

Pack, Share, Check

GRADE 4 · 4.OA.A.3

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	A bakery makes 4 trays of 18 muffins. It sells 29 muffins. Write an equation with ___ for the muffins left, then solve.	**___ = 4 × 18 - 29 = 43 muffins**
2	A teacher opens 3 packs of 28 pencils and shares them equally among 9 students. Write equations with ___ for the pencils each student gets. How many are left over?	**3 × 28 = 84; 84 = 9 × ___ + 3; ___ = 9 pencils per student, with 3 left over**
3	A trip has 46 students and 19 adults. Each van holds 8 people. Write equations with ___ for the vans needed, then solve.	**46 + 19 = 65; 65 = 8 × 8 + 1; ___ = 8 + 1 = 9 vans**
4	Seven teams get 14 tickets each. They return 31 tickets they do not use. Write an equation with ___ for the tickets used, then solve.	**___ = 7 × 14 - 31 = 67 tickets**
5	An art club has 96 beads. It uses 17 beads for each of 4 projects. Write an equation with ___ for the beads left, then solve.	**___ = 96 - 4 × 17 = 28 beads**
6	A club has 41 postcards and makes 23 more. Each envelope holds 10 postcards. Write equations with ___ for the envelopes needed to pack them all, then solve.	**41 + 23 = 64; 64 = 10 × 6 + 4; ___ = 6 + 1 = 7 envelopes**

PART 2 · APPLY IT

1. **7 × ___ + 1 = 8 × 36 - 49; ___ = 34 bookmarks per classroom, with 1 left over** There are 8 × 36 - 49 = 239 bookmarks to share, and 239 = 7 × 34 + 1. Estimating 8 × 35 - 50 = 230 gives about 33 per classroom, so 34 is reasonable.
2. **27 × 4 - 16 = 92; 92 = 20 × 4 + 12; ___ = 4 + 1 = 5 packs** The club needs 92 more tokens, so 4 packs leave it 12 tokens short and 5 packs are enough. Estimating 27 × 4 as about 100 shows that the club needs about 100 more tokens, or about 5 packs.

CHALLENGE

No. 352 + 17 = 369 people; 369 = 42 × 8 + 33, so 9 buses are needed. ___ = 9 - 3 = 6 additional buses. As a check, 8 buses hold only 8 × 42 = 336 people, fewer than 369.

Accept equivalent equations using ___ for the unknown. For division problems, require students to interpret the remainder in the context, not just report it.