LESSON MAKER PRO

Groups and Leftovers

Write an equation with ___, solve, and check by estimating.

GRADE 4 · 4.OA.3

4.OA.3 "Solve multi-step word problems posed with whole numbers, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity..."

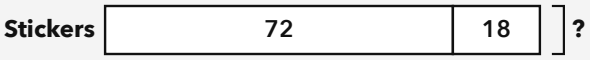
NAME _____ DATE _____

THE BIG IDEA

Combine or compare amounts before making equal groups. Use ___ for the unknown in your equation, then estimate to check your answer. A remainder may mean items are left over or that one more group is needed.

WORKED EXAMPLE

A club has 72 stickers and gets 18 more. It packs 8 stickers per bag. How many full bags can it pack, and how many stickers remain?



1. 72 + 18 = 90 stickers.
2. 90 = 8 × ___ + 2.
3. ___ = 11. Since 8 × 10 = 80, the answer is sensible.

Answer: 11 full bags, with 2 stickers left over.

PRACTICE 4 problems

1 Mia has 46 beads and buys 35 more. She uses 9 beads per bracelet. How many bracelets can she make?

ANSWER _____

2 A team has 135 cards. It gives away 27, then shares the rest among 6 players. How many cards does each player get?

ANSWER _____

3 A class collects 58 cans on Monday and 47 on Tuesday. Each box holds 12 cans. How many full boxes can they fill, and how many cans remain?

ANSWER _____

4 Jo earns 15 points in each of 4 rounds, then spends 13 points. How many points remain?

ANSWER _____

APPLY IT Show your work

1 You have 85 game tokens and earn 28 more. Each prize costs 6 tokens. How many prizes can you get, and how many tokens remain?

WORK SPACE

ANSWER _____

2 At a school game day, 7 teams of 14 students sign up. Then 23 students leave. Each activity group holds 8 students. How many groups are needed?

WORK SPACE

ANSWER _____

CHALLENGE One step up

An arcade has 5 packs of 36 tickets and 17 loose tickets. A toy costs 24 tickets. Sam says there are enough tickets for 9 toys. Is Sam right? Write an equation with ___ and use an estimate to explain.

WORK SPACE AND ANSWER

ANSWER KEY

Groups and Leftovers

GRADE 4 · 4.OA.3

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Mia has 46 beads and buys 35 more. She uses 9 beads per bracelet. How many bracelets can she make?	**9 × ___ = 46 + 35; ___ = 9 bracelets.**
2	A team has 135 cards. It gives away 27, then shares the rest among 6 players. How many cards does each player get?	**6 × ___ = 135 - 27; ___ = 18 cards.**
3	A class collects 58 cans on Monday and 47 on Tuesday. Each box holds 12 cans. How many full boxes can they fill, and how many cans remain?	**58 + 47 = 12 × ___ + 9; ___ = 8 full boxes, with 9 cans remaining.**
4	Jo earns 15 points in each of 4 rounds, then spends 13 points. How many points remain?	**___ = 15 × 4 - 13; ___ = 47 points.**

PART 2 · APPLY IT

1. **85 + 28 = 6 × ___ + 5; ___ = 18 prizes, with 5 tokens remaining.** There are 113 tokens. Eighteen prizes cost 108 tokens, leaving 5; about 110 tokens buys about 18 prizes.
2. **7 × 14 - 23 = 8 × (___ - 1) + 3; ___ = 10 groups.** Of the 75 students left, 72 fill 9 groups and 3 need one more group. About 80 students need about 10 groups.

CHALLENGE

No. 5 × 36 + 17 = 24 × ___ + 5, so ___ = 8 toys. About 200 tickets at about 25 per toy buys about 8 toys, not 9.

Accept equivalent equations with ___ and correct answers. For the group problem, students must count the partly filled group.