

Smart Number Moves

Use patterns and parts to solve real math situations.

GRADE 4 • 4.MP.7

4.MP.7 "Look for and make use of structure."

NAME _____

DATE _____

SPOT THE STRUCTURE

Look for a helpful pattern or break a number into easier parts. Solve the smaller parts, then put the results together. Check that your answer fits the situation.

WORKED EXAMPLE

A concert has 7 rows of 16 chairs.
How many chairs are there?

1. Break 16 into $8 + 8$.
2. Multiply: $7 \times 8 = 56$.
3. Add the two equal parts: $56 + 56 = 112$.

Answer: 112 chairs

PRACTICE 6 problems

- 1** A club puts 14 stickers in each of 9 prize bags. Use $14 = 10 + 4$ to find the total number of stickers.

ANSWER _____

- 2** A garden has 12 rows with 13 plants in each row. Break apart 13 to find the total number of plants.

ANSWER _____

- 3** A teacher makes 25 groups of 4 reading cards. Use the fact that 4 groups of 25 make 100 to find the total number of cards.

ANSWER _____

- 4** A library has 18 shelves with 5 books on each shelf. Use a pattern or an easy split to find the total number of books.

ANSWER _____

- 5** A cafeteria sets up 11 tables with 23 seats at each table. Break apart 23 to find the total number of seats.

ANSWER _____

- 6** A team orders 24 jerseys with 3 name labels on each jersey. Use a pattern or an easy split to find the total number of labels.

ANSWER _____

APPLY IT Show your work

- 1** The school store has 19 packs of 12 pencils. How many pencils does the store have? Use the nearby fact 20×12 , then adjust.

WORK SPACE

ANSWER _____

- 2** A trading-card club gives 14 cards to each of 23 members. How many cards does the club give away? Break apart 23 to solve.

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

A school packs 34 boxes with 18 bookmarks in each box. How many bookmarks are packed? Explain how using $18 = 20 - 2$ can make the multiplication easier.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	A club puts 14 stickers in each of 9 prize bags. Use $14 = 10 + 4$ to find the total number of stickers.	126 stickers
2	A garden has 12 rows with 13 plants in each row. Break apart 13 to find the total number of plants.	156 plants
3	A teacher makes 25 groups of 4 reading cards. Use the fact that 4 groups of 25 make 100 to find the total number of cards.	100 reading cards
4	A library has 18 shelves with 5 books on each shelf. Use a pattern or an easy split to find the total number of books.	90 books
5	A cafeteria sets up 11 tables with 23 seats at each table. Break apart 23 to find the total number of seats.	253 seats
6	A team orders 24 jerseys with 3 name labels on each jersey. Use a pattern or an easy split to find the total number of labels.	72 labels

PART 2 • APPLY IT

- 228 pencils** Find $20 \times 12 = 240$. Subtract one pack of 12, so $240 - 12 = 228$.
- 322 cards** Break 23 into $20 + 3$. Then $20 \times 14 = 280$ and $3 \times 14 = 42$, so the total is 322.

CHALLENGE

612 bookmarks; $34 \times 18 = 34 \times (20 - 2) = 680 - 68 = 612$.

Accept any correct total and any valid use of breaking apart, nearby facts, or equal groups. Students may use a different structure as long as their work and answer are correct.