LESSON MAKER PRO

Smart Number Moves

Use patterns and parts to make math easier.

GRADE 7 · 7.MP.7

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

NAME _____ DATE _____

SEE THE STRUCTURE

When equal groups appear, rewrite a number in helpful parts or factor out a common amount. Solve the smaller pieces, then combine them. Check that your answer fits the situation.

WORKED EXAMPLE

A library puts 13 bookmarks in each of 5 prize bags. How many bookmarks are used?

1. 13 = 10 + 3
2. (10 + 3) x 5 = 10 x 5 + 3 x 5
3. 50 + 15 = 65

Answer: 65 bookmarks

PRACTICE 5 problems

1 A game club packs 9 cards into each of 8 welcome packs. Use a helpful split to find the total cards.

ANSWER _____

2 A garden team plants 16 seeds in each of 2 trays. Use structure to find the total seeds.

ANSWER _____

3 A student fills 25 photo slots on each of 6 album pages. Use a friendly number to find the total photos.

ANSWER _____

4 A podcast has 18 minutes in each of 4 episodes. Split a factor to find the total listening time.

ANSWER _____

5 A theater sets 11 chairs in each of 12 rows. Use a split to find the total chairs.

ANSWER _____

APPLY IT Show your work

1 Student council sells 17 glow bracelets for $7 each. Use a nearby multiple to find the money collected.

WORK SPACE

ANSWER _____

2 A robotics team buys 14 small batteries at $6 each and 14 charging clips at $2 each. Use one expression that groups the equal number of items to find the total cost.

WORK SPACE

ANSWER _____

CHALLENGE One step up

A game gives 29 energy points in each of 12 levels. Find the total points. Explain how you used a nearby number instead of multiplying 29 x 12 in one step.

WORK SPACE AND ANSWER

ANSWER KEY

Smart Number Moves

GRADE 7 · 7.MP.7

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	A game club packs 9 cards into each of 8 welcome packs. Use a helpful split to find the total cards.	**72 cards**
2	A garden team plants 16 seeds in each of 2 trays. Use structure to find the total seeds.	**32 seeds**
3	A student fills 25 photo slots on each of 6 album pages. Use a friendly number to find the total photos.	**150 photos**
4	A podcast has 18 minutes in each of 4 episodes. Split a factor to find the total listening time.	**72 minutes**
5	A theater sets 11 chairs in each of 12 rows. Use a split to find the total chairs.	**132 chairs**

PART 2 · APPLY IT

1. **$119** Use 20 x 7 - 3 x 7. That is 140 - 21 = 119.
2. **$112** Factor out 14: 14 x (6 + 2) = 14 x 8 = 112.

CHALLENGE

348 points; 30 x 12 - 12 = 360 - 12 = 348.

Accept any correct split, factoring method, or equivalent equation. For the challenge, require a valid explanation using a nearby number or another clear structural method.