LESSON MAKER PRO

Pattern Power Plans

Use repeated steps to solve equal-group problems.

GRADE 4 · 4.MP.8

4.MP.8 "Look for and express regularity in repeated reasoning."

NAME _____ DATE _____

SPOT THE GROWING PATTERN

When equal groups are added, the total grows by the same amount each time. Use a smaller group total you know, repeat that reasoning, and check your answer with the related division or multiplication fact.

WORKED EXAMPLE

A library puts 14 books on each of 9 shelves. How many books are on the shelves?

1. Find 5 shelves: 5 x 14 = 70.
2. Find 4 more shelves: 4 x 14 = 56.
3. Add the parts: 70 + 56 = 126.
4. Check: 126 / 14 = 9.

Answer: 126 books

PRACTICE 6 problems

1 A bake-sale table has 3 trays with 11 muffins on each tray. Find the total for 2 trays, then add 1 tray. How many muffins are there? Check with division.

ANSWER _____

2 A game club sets up 7 tables with 12 chairs at each table. Find the total for 3 tables, add another 3 tables, then add 1 table. How many chairs are set up?

ANSWER _____

3 A gardener puts 13 seeds in each of 6 small pots. Find the total for 2 pots, then add that same total twice more. How many seeds are planted?

ANSWER _____

4 A music teacher places 6 recorders on each of 8 racks. Find the total for 2 racks, then add that same total 3 more times. How many recorders are on the racks?

ANSWER _____

5 A comic shop fills 10 display sleeves with 3 cards each. Skip-count by 3 for each sleeve. How many cards are in the sleeves?

ANSWER _____

6 A coach has 45 wristbands and makes equal sets of 3. Skip-count by 3, or use a related multiplication fact. How many sets can the coach make?

ANSWER _____

APPLY IT Show your work

1 A robotics club tests 13 mini cars. Each car needs 6 batteries. Split the cars into 10 cars and 3 cars, then combine the totals. How many batteries does the club need? Check with division.

WORK SPACE

ANSWER _____

2 At a reading challenge, 66 book stickers are shared equally among 11 teams. Use repeated multiplication facts for 11 until you reach 66. How many stickers does each team get?

WORK SPACE

ANSWER _____

CHALLENGE One step up

A museum gift shop packs 12 postcards in each of 15 boxes. Find the total by finding 10 boxes, then 3 boxes, then 2 boxes. How many postcards are packed? Explain how the equal groups helped you solve the problem.

WORK SPACE AND ANSWER

ANSWER KEY

Pattern Power Plans

GRADE 4 · 4.MP.8

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	A bake-sale table has 3 trays with 11 muffins on each tray. Find the total for 2 trays, then add 1 tray. How many muffins are there? Check with division.	**33 muffins**
2	A game club sets up 7 tables with 12 chairs at each table. Find the total for 3 tables, add another 3 tables, then add 1 table. How many chairs are set up?	**84 chairs**
3	A gardener puts 13 seeds in each of 6 small pots. Find the total for 2 pots, then add that same total twice more. How many seeds are planted?	**78 seeds**
4	A music teacher places 6 recorders on each of 8 racks. Find the total for 2 racks, then add that same total 3 more times. How many recorders are on the racks?	**48 recorders**
5	A comic shop fills 10 display sleeves with 3 cards each. Skip-count by 3 for each sleeve. How many cards are in the sleeves?	**30 cards**
6	A coach has 45 wristbands and makes equal sets of 3. Skip-count by 3, or use a related multiplication fact. How many sets can the coach make?	**15 sets**

PART 2 · APPLY IT

1. **78 batteries** 10 x 6 = 60 and 3 x 6 = 18. Add 60 + 18 to get 78, and 78 / 6 = 13 checks the answer.
2. **6 stickers per team** 11 x 6 = 66, so each of the 11 teams gets 6 stickers.

CHALLENGE

180 postcards. Ten boxes hold 120 postcards, 3 boxes hold 36 postcards, and 2 boxes hold 24 postcards, so 120 + 36 + 24 = 180. Each added box increases the total by 12 postcards.

Accept any correct repeated-reasoning strategy, including breaking groups apart, skip-counting, or using a related multiplication or division fact. Accept correct answers with appropriate units and a valid check when requested.