LESSON MAKER PRO

Pattern Power Plans

Use repeated steps to solve real-life math situations.

GRADE 5 · 5.MP.8

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

NAME _____ DATE _____

NOTICE THE REPEAT

When the same amount is added, grouped, or taken away again and again, write a few steps in order. Notice what stays the same, then use the pattern to predict a later result and check that it makes sense.

WORKED EXAMPLE

At a bike-a-thon, Lena rides 14 laps each day for 4 days. How many laps does she ride altogether?

1. After day 1: 14 laps.
2. After day 2: 14 + 14 = 28 laps.
3. After day 3: 28 + 14 = 42 laps.
4. After day 4: 42 + 14 = 56 laps.

Answer: 56 laps

PRACTICE 6 problems

1 A video game gives Inez 9 energy stars after each completed level. She completes 6 levels. Use the repeated pattern to find her total number of energy stars.

ANSWER _____

2 Kai makes 5 friendship bracelets. Each bracelet uses 12 beads. Use repeated addition or equal groups to find the total number of beads.

ANSWER _____

3 During a reading challenge, an app shows 16 points after 2 days, 24 points after 3 days, and 32 points after the next day. The total rises by the same amount each day. What total will it show after 7 days?

ANSWER _____

4 A snack team places 72 juice boxes into crates holding 8 juice boxes each. They subtract 8 again and again until no boxes are left. How many crates do they fill?

ANSWER _____

5 The drama club's warm-up lasts 15 minutes on each of 6 rehearsal days. Use a repeated-addition pattern to find the total number of warm-up minutes.

ANSWER _____

6 A trail team places 11 direction signs on each of 7 hiking paths. How many signs does the team place altogether?

ANSWER _____

APPLY IT Show your work

1 A skateboard club gives each new member 6 grip stickers. There are 13 new members. Use the pattern of adding 6 for each member to find how many grip stickers the club needs.

WORK SPACE

ANSWER _____

2 An arcade puts 96 prize tickets into envelopes that hold 12 tickets each. How many envelopes are filled? Use repeated subtraction or a multiplication pattern, then check your answer.

WORK SPACE

ANSWER _____

CHALLENGE One step up

A theater club arranges 23 rows of 17 seats for a school show. Adding 17 seats one row at a time would take a long time. Use the repeated pattern to find the total number of seats. Explain how you broke the rows into easier groups and check your result.

WORK SPACE AND ANSWER

ANSWER KEY

Pattern Power Plans

GRADE 5 · 5.MP.8

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	A video game gives Inez 9 energy stars after each completed level. She completes 6 levels. Use the repeated pattern to find her total number of energy stars.	**54 energy stars**
2	Kai makes 5 friendship bracelets. Each bracelet uses 12 beads. Use repeated addition or equal groups to find the total number of beads.	**60 beads**
3	During a reading challenge, an app shows 16 points after 2 days, 24 points after 3 days, and 32 points after the next day. The total rises by the same amount each day. What total will it show after 7 days?	**56 points**
4	A snack team places 72 juice boxes into crates holding 8 juice boxes each. They subtract 8 again and again until no boxes are left. How many crates do they fill?	**9 crates**
5	The drama club's warm-up lasts 15 minutes on each of 6 rehearsal days. Use a repeated-addition pattern to find the total number of warm-up minutes.	**90 minutes**
6	A trail team places 11 direction signs on each of 7 hiking paths. How many signs does the team place altogether?	**77 signs**

PART 2 · APPLY IT

1. **78 grip stickers** There are 13 equal groups of 6 stickers. Multiply 13 x 6 = 78, or add 6 thirteen times.
2. **8 envelopes** Subtracting 12 from 96 reaches zero in 8 steps. Check: 8 x 12 = 96.

CHALLENGE

391 seats. 17 x 20 = 340 and 17 x 3 = 51, so 340 + 51 = 391. Check: 23 x 10 + 23 x 7 = 230 + 161 = 391.

Accept repeated addition, multiplication, or equal-group strategies when the stated total is correct. For the challenge, accept any clear decomposition of 23 rows that totals 391.