LESSON MAKER PRO

Rules in Motion

Connect tables, graphs, and rules.

GRADE 6 · 6.A.1.2

6.A.1.2 "Represent relationships between two varying positive quantities involving no more than two operations with rules, graphs, and tables; translate between any two of these representations."

NAME _____ DATE _____

THE BIG IDEA

A rule tells how y changes when x changes. Use pairs in a table or points on a graph to find a rule, then check that it works for the values shown.

WORKED EXAMPLE

Use the table to write a rule for y.

x	y
11	35
12	38
13	41

1. When x rises by 1, y rises by 3.
2. Start with y = 3x + a number.
3. At x = 11, 3(11) = 33, and 35 - 33 = 2.

Answer: y = 3x + 2

PRACTICE 4 problems

1 Rule: y = 5x + 1. Find y when x = 7.

ANSWER _____

2 Rule: y = 6x - 1. Find y when x = 9.

ANSWER _____

3 A table has x-values 1, 4, 7 and matching y-values 16, 37, 58. Write a rule for y.

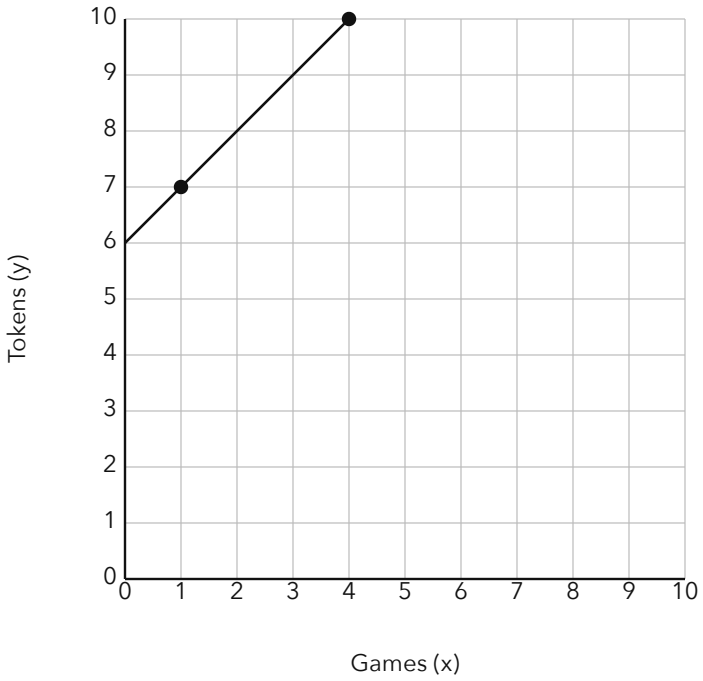
ANSWER _____

4 Rule: y = 4x + 1. Find x when y = 29.

ANSWER _____

APPLY IT Show your work

1 The graph shows tokens y after x arcade games. Write a rule, then find the tokens after 8 games.



ANSWER _____

2 A club packs stickers into prize bags. The table shows total stickers y for x bags. Write a rule, then find the total for 9 bags.

PRIZE BAGS

Bags (x)	Stickers (y)
1	9
4	24
7	39

ANSWER _____

CHALLENGE One step up

Rule: y = 6x + 1. Which table entry is wrong? Give its correct value and explain.

x	y
1	7
4	25
7	44

WORK SPACE AND ANSWER

ANSWER KEY

Rules in Motion

GRADE 6 · 6.A.1.2

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Rule: y = 5x + 1. Find y when x = 7.	**36**
2	Rule: y = 6x - 1. Find y when x = 9.	**53**
3	A table has x-values 1, 4, 7 and matching y-values 16, 37, 58. Write a rule for y.	**y = 7x + 9**
4	Rule: y = 4x + 1. Find x when y = 29.	**7**

PART 2 · APPLY IT

1. **y = x + 6; 14 tokens** The line rises 1 token per game and starts at 6 tokens. Substitute x = 8 to get y = 14.
2. **y = 5x + 4; 49 stickers** The total increases by 5 stickers per bag, with 4 extra stickers. For 9 bags, y = 5(9) + 4 = 49.

CHALLENGE

The entry (7, 44) is wrong. When x = 7, y = 6(7) + 1 = 43.

Accept equivalent rule notation and explanations that correctly identify the change in y and the starting value. The arcade answer extends the graph's rule beyond the visible line.