Rule or Notice

Tell what the rule says from what the pattern shows.

CCSS.Math.Content.4.OA.C.5 "Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. For example, given the rule "Add 3" and the starting number 1…"

NAME _____ DATE _____

STATED BY THE RULE

A stated rule tells what to do, such as where to begin or how to change each term. If the claim repeats those directions, choose RULE.

Directions for a bead bracelet say, "Put 2 red beads after every green bead." The red-bead direction is stated by the rule.

NOTICED IN THE PATTERN

A noticed feature is something you see after making or reading a pattern. It may be true, but the rule did not say it directly.

A picture pattern shows a triangle pointing up, then down, then up, then down. The directions alternate. That is a noticed feature.

1 SORT

8 items

For each item, circle RULE if the claim is stated directly by the rule or NOTICE if it is a feature you can observe, then choose two items and write how you knew.

1.	Rule: Start at 7. Add 3. Claim: Add 3 each time.	RULE NOTICE
2.	Rule: Start at 6. Add 2. Terms: 6, 8, 10, 12. Claim: All the shown terms are even.	RULE NOTICE
3.	Rule: Start at 20. Subtract 4. Terms: 20, 16, 12, 8. Claim: Every shown term is divisible by 4.	RULE NOTICE
4.	Rule: Start at 5. Add 7. Claim: Begin with 5.	RULE NOTICE
5.	Rule: Begin with 4 squares. Add 4 squares to each new figure. Claim: Add 4 squares to each new figure.	RULE NOTICE
6.	Rule: Start at 11. Add 6. Claim: Add 6 each time.	RULE NOTICE
7.	Rule: Start at 4. Add 4. Terms: 4, 8, 12, 16. Claim: The ones digits go 4, 8, 2, 6.	RULE NOTICE
8.	Rule: Start at 30. Subtract 5. Claim: Subtract 5 each time.	RULE NOTICE

2 PROVE IT

Explain your thinking

Pick two items from Part 1. For each one, tell how you knew where it belonged.

ITEM # _____ **HOW I KNEW** _____

ITEM # _____ **HOW I KNEW** _____

3 MAKE YOUR OWN

One of each

Write one new pattern and claim for RULE and one new pattern and claim for NOTICE.

RULE _____

NOTICE _____

CHALLENGE

Start at 3 and add 6. Write the first five terms, name one feature not stated in the rule, and explain why the feature will continue.

ANSWER KEY

Rule or Notice

GRADE 4 · 4.OA.C.5

PART 1 · SORT

#	ITEM	CATEGORY	WHY
1	Rule: Start at 7. Add 3. Claim: Add 3 each time.	**RULE**	The claim repeats the change stated in the rule.
2	Rule: Start at 6. Add 2. Terms: 6, 8, 10, 12. Claim: All the shown terms are even.	**NOTICE**	Being even is observed from the terms, not stated directly by the rule.
3	Rule: Start at 20. Subtract 4. Terms: 20, 16, 12, 8. Claim: Every shown term is divisible by 4.	**NOTICE**	Divisibility by 4 is a feature of the terms, not words in the rule.
4	Rule: Start at 5. Add 7. Claim: Begin with 5.	**RULE**	The claim repeats the starting number stated in the rule.
5	Rule: Begin with 4 squares. Add 4 squares to each new figure. Claim: Add 4 squares to each new figure.	**RULE**	The claim repeats the directions in the rule.
6	Rule: Start at 11. Add 6. Claim: Add 6 each time.	**RULE**	The claim repeats the change stated in the rule.
7	Rule: Start at 4. Add 4. Terms: 4, 8, 12, 16. Claim: The ones digits go 4, 8, 2, 6.	**NOTICE**	The ones-digit pattern is observed from the terms.
8	Rule: Start at 30. Subtract 5. Claim: Subtract 5 each time.	**RULE**	The claim repeats the change stated in the rule.

PART 2 · PROVE IT

Accept any explanation that names the deciding feature from the rule box for the chosen item.

PART 3 · MAKE YOUR OWN (SAMPLE ANSWERS)

- **RULE**: RULE sample: Rule: Start at 14. Add 8. Claim: Add 8 each time.
- **NOTICE**: NOTICE sample: Rule: Start at 1. Add 5. Terms: 1, 6, 11, 16. Claim: The ones digits alternate between 1 and 6.

Challenge: 3, 9, 15, 21, 27. Every term is odd. Adding 6, an even number, to an odd number makes another odd number.

Accept equivalent language when students distinguish a direction stated in the rule from a feature inferred from the terms. In Part 2, look for reference to exact rule words or evidence from the listed terms.