

What's My Rule?

Purpose

The purpose is to learn to spot patterns in number series. When you are looking for a pattern that uncovers a hidden operation, you look at what number you started with and what number you ended with and try to figure out what happened to the numbers in between. This is one thing scientists and mathematicians do when they discover new "formulas." A game that exercises this skill is What's My Rule?

Activity

To play, think of a simple operation such as $+ 2$. The student gives you a number and you add two to it and say the new number back. For example, if she says, "one," you say "three." She says, "five" and you say, "seven." The number she gives you is called the independent variable, or the number In. The number you say back is called the dependent variable, or the number Out.

Record the information on a chart like this:

IN	OUT
1	3
5	7
9	?

What's My Rule? $+2$

When a student thinks she knows the rule, let her predict the number out loud. Finally, when everyone can predict successfully, let someone formulate the rule of plus 2. Students love to make these up for each other using easy addition, subtraction, multiplication, and division operations.

Play this game regularly. It's a good rainy day and in-the-car game.

One teacher called this activity Black Box and made a symbolic black box out of a milk carton decorated with gears and levers with a slide inside that flipped a card upside down. A card would be put in the slot in the top of the box and come out so the number written on the back of the card came out a bottom slot. The students then guessed the rule. When the box appeared, the students' minds focused to discover the relationship between the In and Out number of the day.

Worksheet

What's My Rule? - Worksheet 1 and a blank page to copy are on the following pages.

Sample games:

IN	OUT
2	4
6	8
9	___
20	___

What's My Rule? _____

IN	OUT
7	4
3	0
10	7
8	___
20	___

What's My Rule? _____

*Answers : 9 11 17 20 22 20 17
 Rule: Add 2
 Rule: Subtract 3

What's My Rule?

Worksheet 1

Date _____

IN	OUT
2	4
6	8
9	___
20	---

What's My Rule? _____

IN	OUT
7	4
3	0
10	7
8	---
20	---

What's My Rule? _____

IN	OUT
10	5
8	4
6	___
4	---
100	---
12	---

What's My Rule? _____

IN	OUT
0	0
1	2
2	4
3	___
8	---

What's My Rule? _____

Make your own.

IN	OUT
2	12
3	13
10	20
7	---
40	---

What's My Rule? _____

IN	OUT
---	---
---	---
---	---
---	---
---	---

What's My Rule? _____

What's My Rule?

Date _____

IN	OUT
---	---
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---	---
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What's My Rule? _____

IN	OUT
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What's My Rule? _____

IN	OUT
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What's My Rule? _____

IN	OUT
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What's My Rule? _____

IN	OUT
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What's My Rule? _____

IN	OUT
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What's My Rule? _____