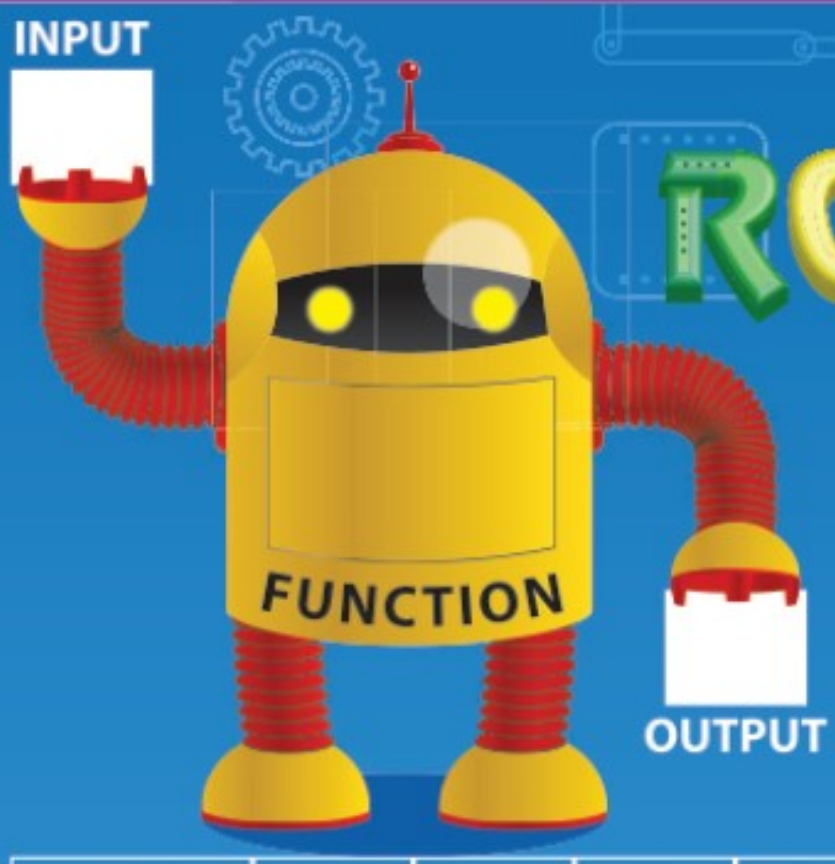
Algebra

ROBOT RULES



Position	1	2	3	4	5	6	7
Pattern	9	18	27		45	54	63

1 The missing number in the table showing the robot machine's input and output is:

(a) 34

(b) 35

(c) 36

2 **True** or **False**?

The function of the robot machine is to make a pattern by multiplying each position number by 4.

3 The next two numbers in the robot machine's pattern are:

(a) 72 and 80

(b) 72 and 81

(c) 70 and 81

4 This robot machine makes a pattern that is:

(a) going up

(b) going down

5 Is the pattern the robot machine makes a repeating pattern?

(a) yes

(b) no

6 **True** or **False**?

There are two separate rules for the robot machine. Either:

- add 9 to each pattern number

  or

- multiply each position by 9

Card 6

7 **True** or **False**?

The function of the robot machine above is the same as the first robot machine.

8 The input and output of this robot machine are:

(a) 7 goes in and 175 comes out

(b) 175 goes in and 7 comes out

9 What is the next position and pattern in the table?

Position	4	5	6	7	8
Pattern	100	125	150	175	200

(a) 9 and 250

(b) 10 and 250

(c) 9 and 225

10 What is the output in the table?

Input	Function	Output
49	Divide by 7	

11 The input in the table is:

Input	Function	Output
	Add 1000	7000

12 What is the function in the table?

Input	Function	Output
54		9

(a) Multiply by 6

(b) Divide by 6

13 The missing number in the addition pattern is:

4, 6, 9, 13, 18, ... , 31, 39

(a) 20

(b) 24

(c) 25

14 Which number is missing in the addition pattern?

62, 68, 76, 82, 90, 96, ... , 110, 118

(a) 102

(b) 106

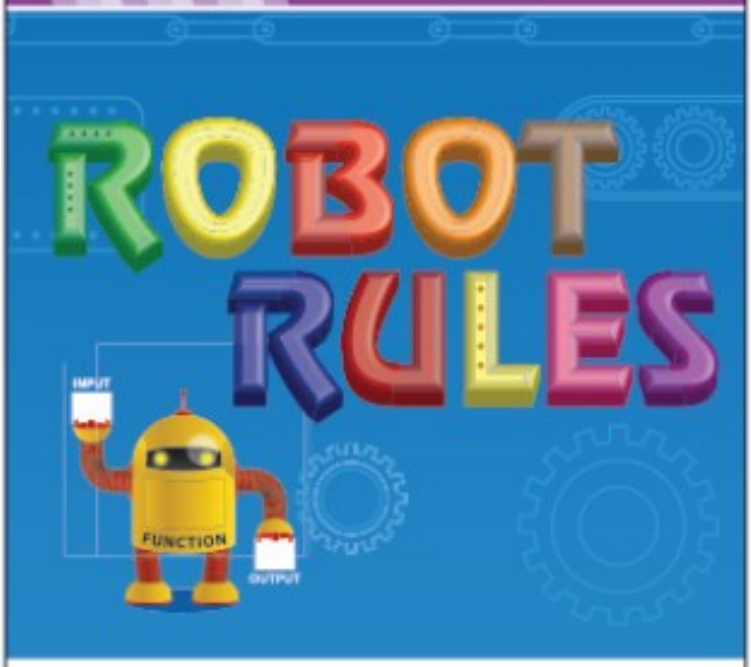
(c) 104

ADDitional Activity

- Create your own input-function-output robot.
- Think of a rule for its function and write it on your robot.
- Draw a table showing the results of different inputs and outputs for your robot.

Card 6

Answers



1. (c) 36
2. False
3. (b) 72 and 81
4. (a) going up
5. (a) yes
6. True
7. False
8. (a) 7 goes in and 175 comes out
9. (c) 9 and 225
10. 7
11. 6000
12. (b) Divide by 6
13. (b) 24
14. (c) 104