

Function Machines

Advanced

Two-step rules. Multiply, then add.

Name: _____ Date: _____

Think: The rule does TWO things. Find the times part first, then the plus/minus part.

1. Guess my rule. Fill the blanks, then write the rule.

Machine A

IN ($\triangle$)	$\rightarrow$	OUT ($\square$)
4	$\rightarrow$	14
2	$\rightarrow$	8
9	$\rightarrow$	29
1	$\rightarrow$	5
6	$\rightarrow$	_____
_____	$\rightarrow$	26

Rule: $\square =$ _____

Machine B

IN ($\triangle$)	$\rightarrow$	OUT ($\square$)
4	$\rightarrow$	11
9	$\rightarrow$	21
2	$\rightarrow$	7
8	$\rightarrow$	19
3	$\rightarrow$	_____
_____	$\rightarrow$	13

Rule: $\square =$ _____

Machine C

IN ($\triangle$)	$\rightarrow$	OUT ($\square$)
3	$\rightarrow$	7
4	$\rightarrow$	9
8	$\rightarrow$	17
7	$\rightarrow$	15
2	$\rightarrow$	_____
_____	$\rightarrow$	13

Rule: $\square =$ _____

Machine D

IN ($\triangle$)	$\rightarrow$	OUT ($\square$)
2	$\rightarrow$	11
0	$\rightarrow$	5
3	$\rightarrow$	14
7	$\rightarrow$	26
9	$\rightarrow$	_____
_____	$\rightarrow$	23

Rule: $\square =$ _____

2. Two machines in a row.

The first machine is $\square = \triangle + 3$. The second is $\square = \triangle \times 2$.

- Put in 4. After the FIRST machine you get _____, then the SECOND gives _____
- Put in 10. What comes out at the end? _____
- What single rule does the pair of machines make? $\square =$ _____