

Function Machines

Advanced — ANSWER KEY

Two-step rules. Multiply, then add.

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 ($\square$)
0	$\rightarrow$	2
6	$\rightarrow$	14
5	$\rightarrow$	12
4	$\rightarrow$	10
7	$\rightarrow$	16
9	$\rightarrow$	20

Rule: $\square = \triangle \times 2 + 2$

Machine B

IN ($\triangle$)	$\rightarrow$	OUT ($\square$)
2	$\rightarrow$	11
9	$\rightarrow$	32
0	$\rightarrow$	5
6	$\rightarrow$	23
1	$\rightarrow$	8
5	$\rightarrow$	20

Rule: $\square = \triangle \times 3 + 5$

Machine C

IN ($\triangle$)	$\rightarrow$	OUT ($\square$)
9	$\rightarrow$	32
2	$\rightarrow$	11
4	$\rightarrow$	17
0	$\rightarrow$	5
1	$\rightarrow$	8
5	$\rightarrow$	20

Rule: $\square = \triangle \times 3 + 5$

Machine D

IN ($\triangle$)	$\rightarrow$	OUT ($\square$)
8	$\rightarrow$	19
6	$\rightarrow$	15
3	$\rightarrow$	9
0	$\rightarrow$	3
5	$\rightarrow$	13
9	$\rightarrow$	21

Rule: $\square = \triangle \times 2 + 3$