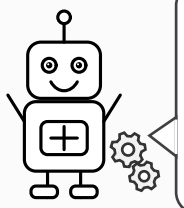
Name : _____ Date : _____

PAPILUMO / 4th Grade

Two-Step Function Machines & Rules

Part A: run both steps forward for outputs or backward for missing inputs. Part B: deduce the hidden 2nd step, then find the output.



Romi the Robot tends double-gear machines! Move forward through both gears to get outputs, or reverse the gears to recover a missing input.

Model: ×3 then +2 (4 -> 14)

4 → ×3 → +2 → 14

(14 − 2) ÷ 3 = 4

Part A: Complete the 3 two-step tables (watch out for the reverse input row!)

#1

×3 → +4

Input	Output
2	
5	
	25
9	

#2

×2 → −5

Input	Output
4	
8	
	17
15	

#3

+6 → ÷3

Input	Output
3	
9	
	8
24	

Part B: Deduce the hidden second rule step, then compute the last output

#4

×4 → ____

Input	Output
2	11
5	23
7	31
9	

#5

÷2 → ____

Input	Output
6	8
10	10
18	14
24	

Romi’s tip: to work backward from Output to Input, undo the second gear first and then undo the first gear!