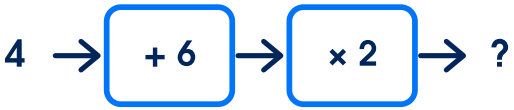
GCSE FOUNDATION · REVISION MAT 3

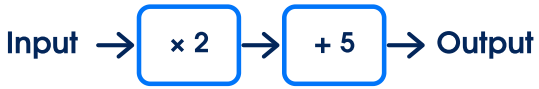
Function machines

1 Here is a function machine.



Work out the output when the input is 4.

2 Here is a function machine.



Complete the table.

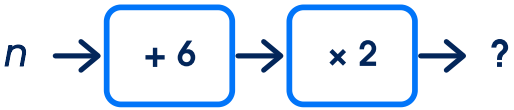
Input	4	6		12
Output	13		45	

3 Machine 1: × 2 then – 3
Machine 2: – 3 then × 2

Lucy says the two machines always give the same output.

Use an input of 6 to show that Lucy is wrong.

4 Here is a function machine.



(a) Write an expression for the output when the input is n.

(b) The output is 26. Show that the input was 7.

5 Machine A: × 6 then – 5
Machine B: × 4 then + 3

The same number is put into both machines. The outputs are equal.

Work out the number.

6 The rule for a machine is "× 6 then + 2".

The output is 50.

(a) Write the inverse rule.

(b) Work out the input.

ANSWERS · REVISION MAT 3

Function machines

1 **20**

2

Input	4	6	**20**	12
Output	13	**17**	45	**29**

3 Machine 1: **9**

Machine 2: **6**

These are different, so the order matters ✓

4 (a) **$2(n + 6)$**

(b) Work backwards: 26 → 7 ✓

5 $6x - 5 = 4x + 3$

$2x = 8$

$x = 4$

6 (a) **– 2 then ÷ 6**

(b) (50 – 2) ÷ 6 = **8**