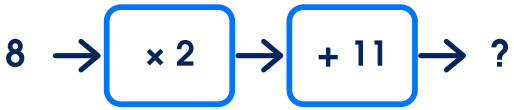
GCSE FOUNDATION · REVISION MAT 5

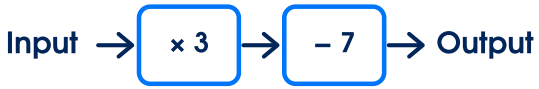
Function machines

1 Here is a function machine.



Work out the output when the input is 8.

2 Here is a function machine.



Complete the table.

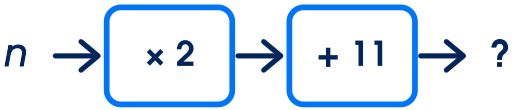
Input	5	9		20
Output	8		50	

3 Machine 1: – 2 then × 4
Machine 2: × 4 then – 2

Lucy says the two machines always give the same output.

Use an input of 7 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 33. Show that the input was 11.

5 Machine A: × 5 then + 1
Machine B: × 2 then + 13

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

Work out the number.

6 The rule for a machine is "× 2 then + 9".

The output is 35.

(a) Write the inverse rule.

(b) Work out the input.

Mr&Mrs MATHS

ANSWERS · REVISION MAT 5

Function machines

1 **27**

2

Input	5	9	**19**	20
Output	8	**20**	50	**53**

3 Machine 1: **20**

Machine 2: **26**

These are different, so the order matters ✓

4 (a) **$2n + 11$**

(b) Work backwards: 33 → 11 ✓

5 $5x + 1 = 2x + 13$

$3x = 12$

$x = 4$

6 (a) **– 9 then ÷ 2**

(b) (35 – 9) ÷ 2 = **13**