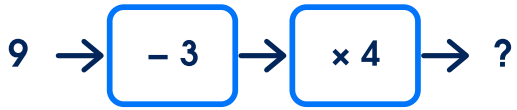
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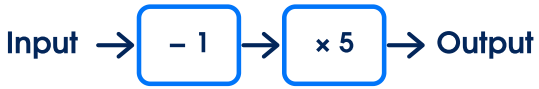
Function machines

1 Here is a function machine.



Work out the output when the input is 9.

2 Here is a function machine.



Complete the table.

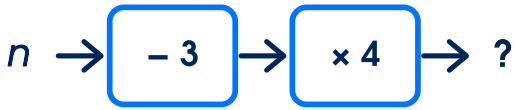
Input	3	7		11
Output	10		70	

3 Machine 1: + 1 then × 5
Machine 2: × 5 then + 1

Lucy says the two machines always give the same output.

Use an input of 3 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 36. Show that the input was 12.

5 Machine A: × 7 then – 2
Machine B: × 3 then + 10

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

Work out the number.

6 The rule for a machine is "× 5 then – 4".

The output is 61.

(a) Write the inverse rule.

(b) Work out the input.

Mr&Mrs MATHS

ANSWERS · REVISION MAT 4

Function machines

1 **24**

2

Input	3	7	**15**	11
Output	10	**30**	70	**50**

3 Machine 1: **20**

Machine 2: **16**

These are different, so the order matters ✓

4 (a) **$4(n - 3)$**

(b) Work backwards: 36 → 12 ✓

5 $7x - 2 = 3x + 10$

$4x = 12$

$x = 3$

6 (a) **+ 4 then ÷ 5**

(b) (61 + 4) ÷ 5 = **13**