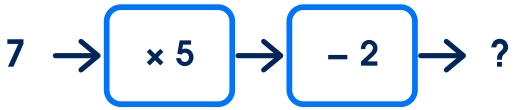
GCSE FOUNDATION · REVISION MAT 2

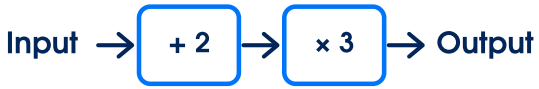
Function machines

1 Here is a function machine.



Work out the output when the input is 7.

2 Here is a function machine.



Complete the table.

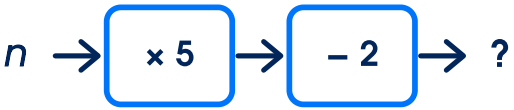
Input	2	5		8
Output	12		33	

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

Lucy says the two machines always give the same output.

Use an input of 4 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 48. Show that the input was 10.

5 Machine A: × 2 then + 9
Machine B: × 4 then + 1

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

Work out the number.

6 The rule for a machine is "× 4 then – 7".

The output is 33.

(a) Write the inverse rule.

(b) Work out the input.

Mr&Mrs MATHS

ANSWERS · REVISION MAT 2

Function machines

1 **33**

2

Input	2	5	**9**	8
Output	12	**21**	33	**30**

3 Machine 1: **27**

Machine 2: **17**

These are different, so the order matters ✓

4 (a) **$5n - 2$**

(b) Work backwards: 48 → 10 ✓

5 $2x + 9 = 4x + 1$

$-2x = -8$

$x = 4$

6 (a) **+ 7 then ÷ 4**

(b) (33 + 7) ÷ 4 = **10**