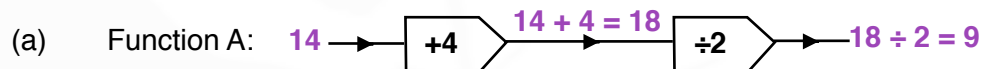
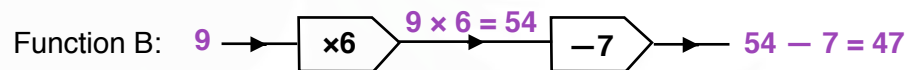


- (a) What is the final value when the number 14 enters Function A and its output then enters Function B?
- (b) What is the final value when the number 3 enters Function B and its output then enters Function A?
- (c) The unknown x is put into Function A and the output then enters Function B. Find a simplified expression in terms of x for the final output.
- (d) The unknown x is put into Function B and the output then enters Function B again. Find a simplified expression in terms of x for the final output.

Working:



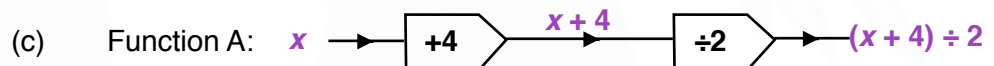
When 14 is the input of Function A, 9 is the output.
 9 now becomes the input for Function B.



The final value is 47.

N.B. You do not need to draw out function machines as above.

(b)



When x is the input of Function A, $\frac{x + 4}{2}$ is the output.

$\frac{x + 4}{2}$ now becomes the input for Function B.

First of all, the output gets multiplied by 6: $6 \times \left(\frac{x + 4}{2} \right)$

The 6 and 2 can cancel to be 3: $3(x + 4)$

Then 7 is subtracted: $3(x + 4) - 7$

Expand... $3x + 12 - 7$

...and simplify: $3x + 5$

The final output is $3x + 5$.

(d)

Video: [Inverse functions](#)
Video: [Composite functions](#)

Exercise

[OCR GCSE 9-1 Functions PPQ](#)

9-1 class textbook:	Function notation is not included in the OCR GCSE course
A*-G class textbook:	Function notation is not included in the OCR GCSE course
9-1 homework book:	Function notation is not included in the OCR GCSE course
A*-G homework book:	Function notation is not included in the OCR GCSE course

Summary

Finding the inverse function

1. ***Reverse the arrows.***
2. Do the ***opposite operations.***
3. ***Swap x and y*** around.
4. Use the inverse function machine to find an expression for y in terms of x .

Composite functions

Composite functions is when a number, or expression, enters one function machine and its output then becomes the input into another function machine.

[Homework book answers \(only available during a lockdown\)](#)

[OCR GCSE 9-1 Functions PPQ SOLUTIONS](#)