

## Find functions from expressions (single)

**1** Complete the function machines.

a) input  $h$  →  $+5$  → output  $h + 5$

d) input  $2a$  →  $+7$  → output  $2a + 7$

b) input  $y$  →  $-2$  → output  $y - 2$

e) input  $5n$  →  $-5$  → output  $5n - 5$

c) input  $g$  →  $\times 4$  → output  $4g$

f) input  $m$  →  $\div 3$  → output  $\frac{m}{3}$

**2** Complete the function machines.

input  $y$  →  $\times 3$  → output  $3y$

input  $y$  →  $+3$  → output  $y + 3$

What is the same and what is different about these function machines?  
Explain your answer.

Both involve 3 but the operations  
are different.

**3** Tick the correct function machine in each pair.

a) input  $2b$  →  $+ 8$  → output  $10b$

input  $2b$  →  $+ 8b$  → output  $10b$

b) input  $2b$  →  $\times 5$  → output  $10b$

input  $2b$  →  $\times 5b$  → output  $10b$

What mistakes have been made in the incorrect function machines?  
Talk about it with a partner.

**4** Complete the function machines.

a) input  $h$  →  $+g$  → output  $h + g$

e) input  $2m$  →  $\times r$  → output  $2mr$

b) input  $k$  →  $\times f$  → output  $kf$

f) input  $3a$  →  $\times 2b$  → output  $6ab$

c) input  $y$  →  $\times y$  → output  $y^2$

g) input  $r^2$  →  $\div r$  → output  $r$

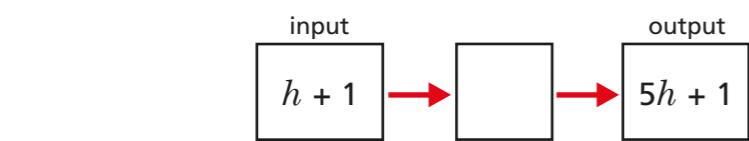
d) input  $5p$  →  $\div 5$  → output  $p$

h) input  $b - 2$  →  $-5$  → output  $b - 7$

Do any of the machines have more than one possible answer?  
Talk about it with a partner.

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Mo and Ron are finding the function for this function machine.



Mo

The function is  $\times 5$

The function is  $+ 4h$ .



Ron

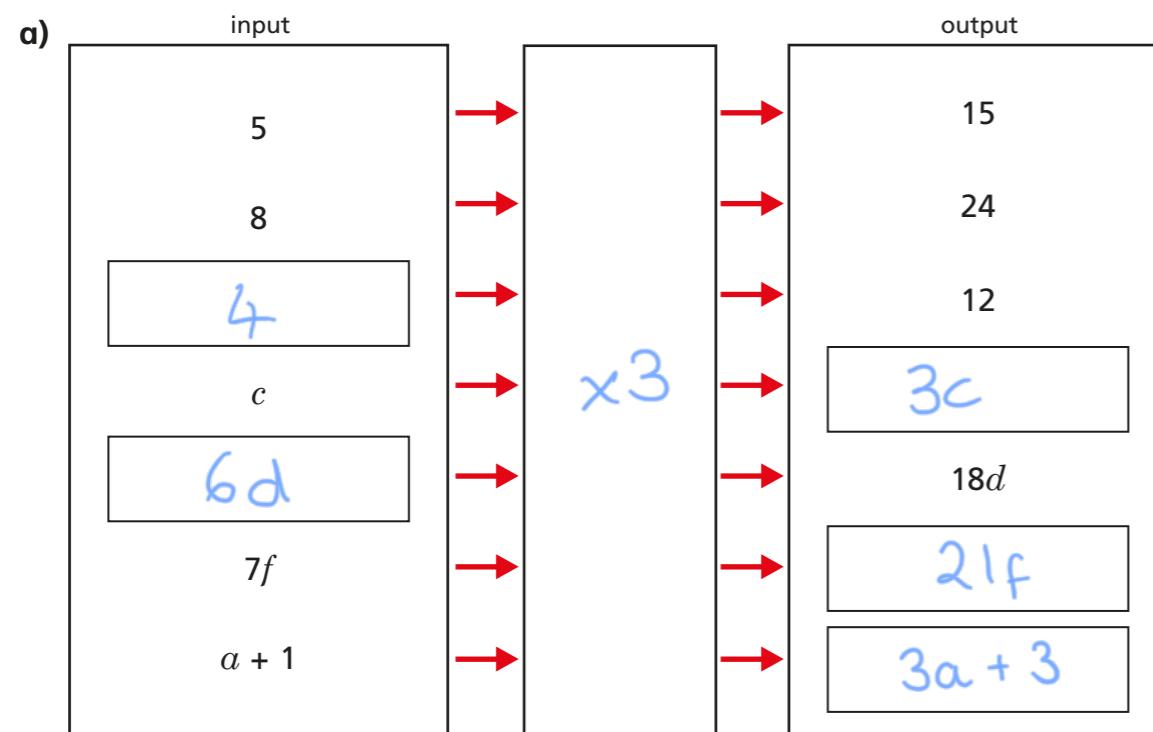
Who do you agree with? Ron

Explain your answer.

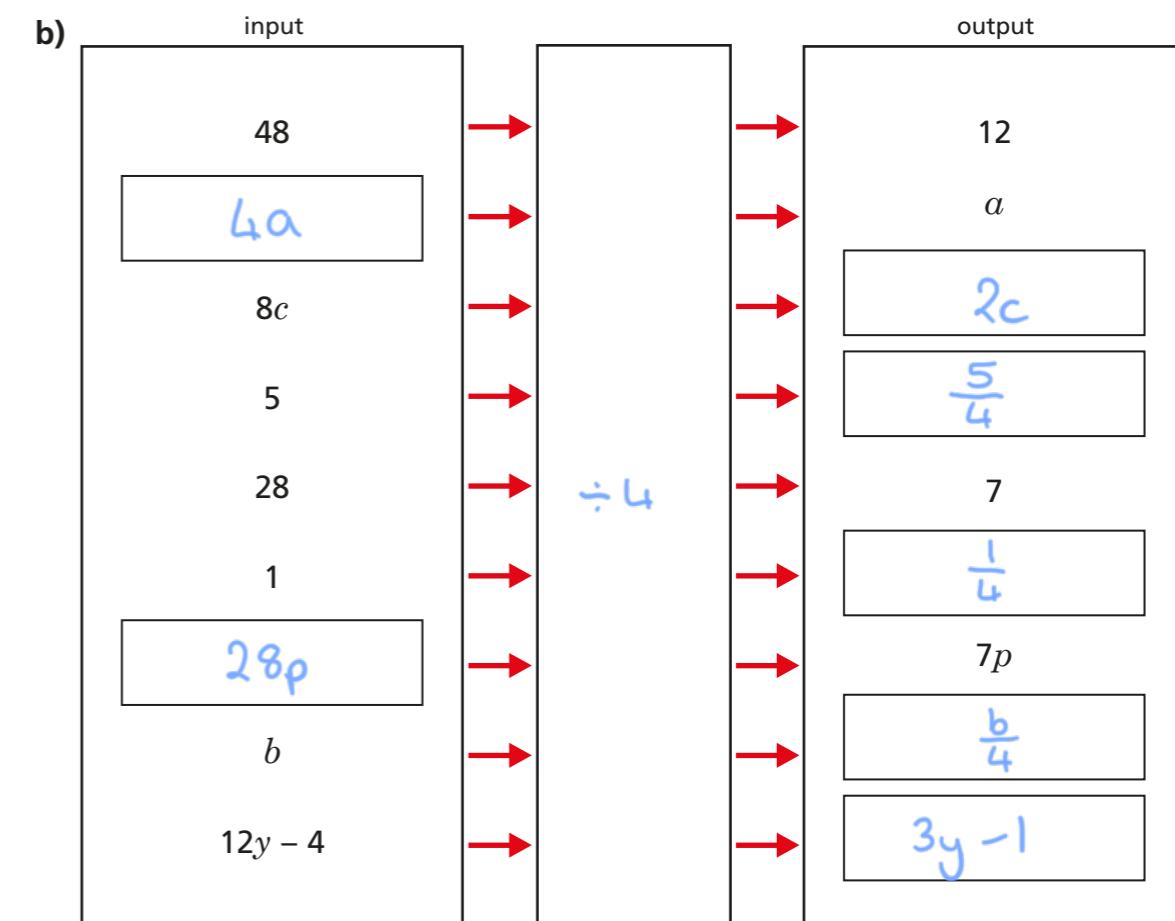
If it was  $\times 5$  the output would  
be  $5h + 5$

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Complete the function machines.

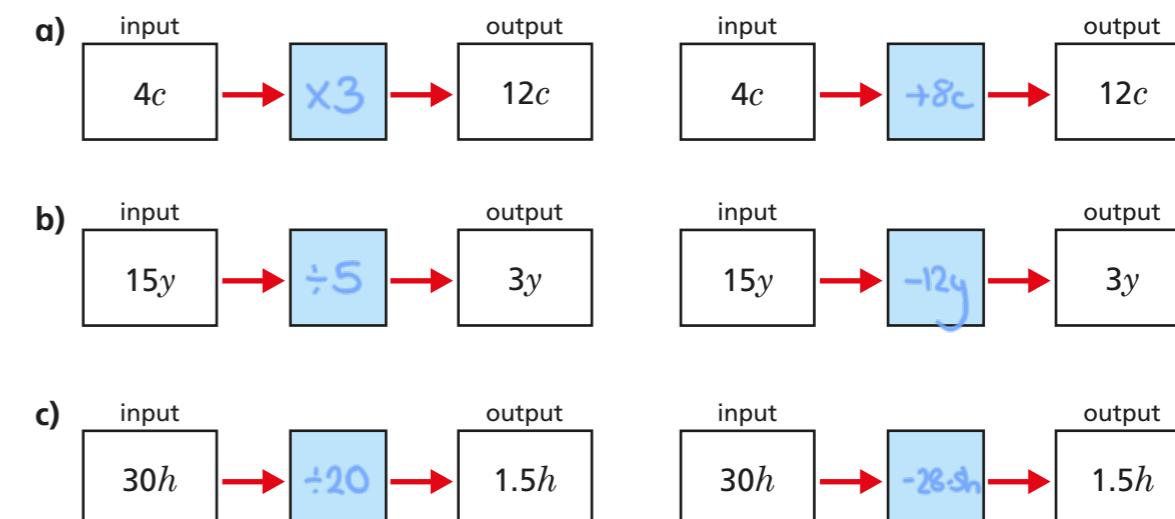


b)



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Complete each function machine in two different ways.



Can you find any other ways to complete the function machines?

