

Find functions from expressions (2-step)

1 Complete the function machines with the correct number and operation.

a) input g → $\times 4$ → $\square$ → output $4g + 3$

b) input m → $\square$ → $+ 3$ → output $2m + 3$

c) input y → $\times 8$ → $\square$ → output $8y - 5$

d) input h → $\square$ → $+ 5$ → output $\frac{h}{2} + 5$

e) input p → $- 6$ → $\square$ → output $\frac{p - 6}{4}$

f) input k → $\square$ → $\div 7$ → output $\frac{k - 6}{7}$

2 Complete the function machines.

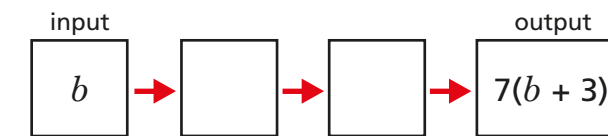
a) input h → $\square$ → $\square$ → output $5h + 2$

b) input h → $\square$ → $\square$ → output $\frac{h}{5} + 2$

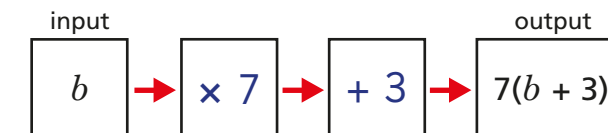
c) input a → $\square$ → $\square$ → output $\frac{a}{8} + 6$

d) input a → $\square$ → $\square$ → output $8a + 6$

3 Alex is completing this function machine.



She fills in the gaps like this.



Explain the mistake Alex has made.

4 Complete these 2-step function machines.

a) input k → $\square$ → $\square$ → output $6(k + 2)$

b) input m → $\square$ → $\square$ → output $8m - 3$

c) input p → $\square$ → $\square$ → output $\frac{p + 4}{7}$

d) input r → $\square$ → $\square$ → output $\frac{r - 5}{6}$

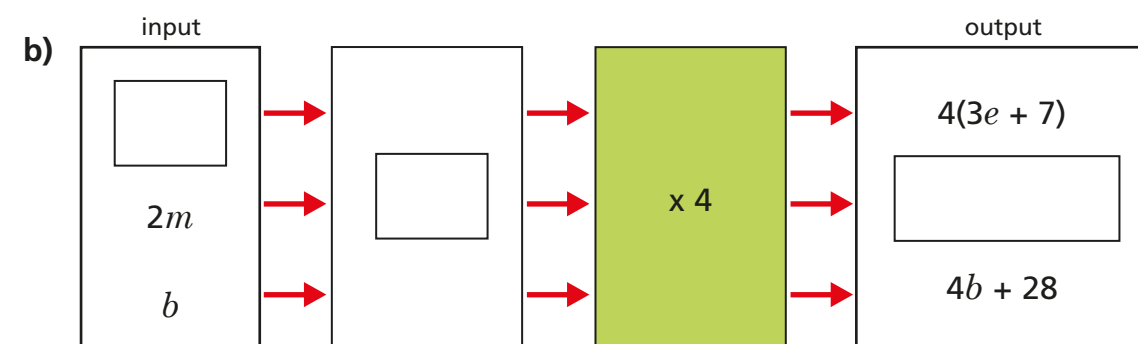
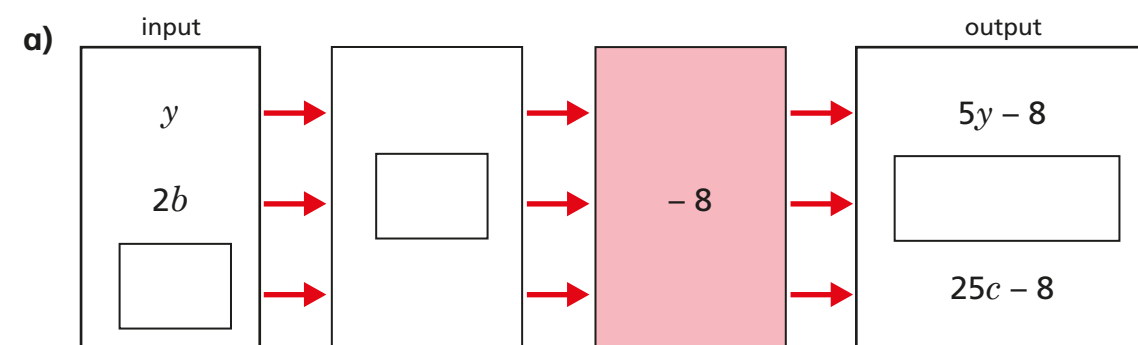
What is the same and what is different about each pair of function machines?

- 5 Draw a 2-step function machine that has an input of y and gives an output of $\frac{y}{3} + 5$

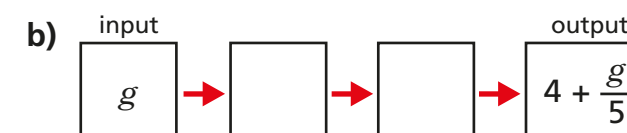
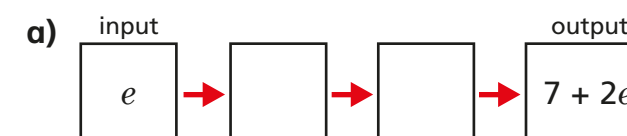
Draw a 2-step function machine that has an input of y and gives an output of $\frac{y+5}{3}$

What is the same and what is different about each of the function machines?

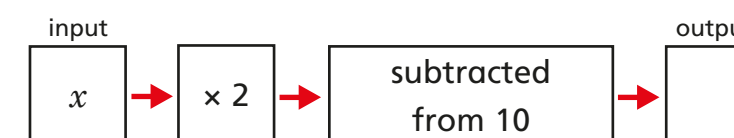
- 6 Complete the function machines.



- 7 Complete these 2-step function machines.



- 8 Here is a function machine.



Which of these expressions shows the output? Tick your answer.

$2x - 10$

$10 - 2x$

Explain your answer.