

Find functions from expressions (2-step)

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

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

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

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

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

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

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

2 Complete the function machines.

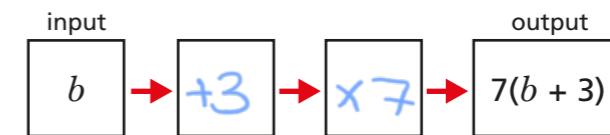
a) input h → $\times 5$ → $+ 2$ → output $5h + 2$

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

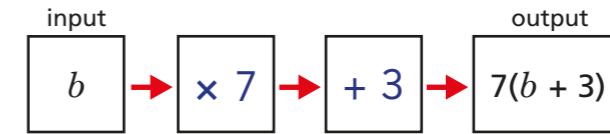
b) input h → $\div 5$ → $+ 2$ → output $\frac{h}{5} + 2$

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

3 Alex is completing this function machine.



She fills in the gaps like this.



Explain the mistake Alex has made.

She has done them in the wrong order.

4 Complete these 2-step function machines.

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

input k → $\times 6$ → $+ 2$ → output $6k + 2$

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

input m → $- 3$ → $\times 8$ → output $8(m - 3)$

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

input p → $\div 7$ → $+ 4$ → output $\frac{p}{7} + 4$

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

input r → $- 5$ → $\div 6$ → 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 $\frac{y}{3} + 5$

$$y \rightarrow \div 3 \rightarrow + 5 \rightarrow \frac{y}{3} + 5$$



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

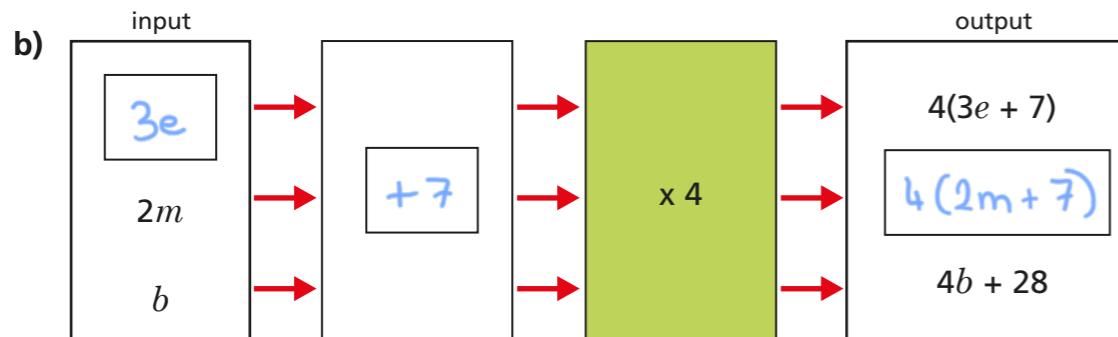
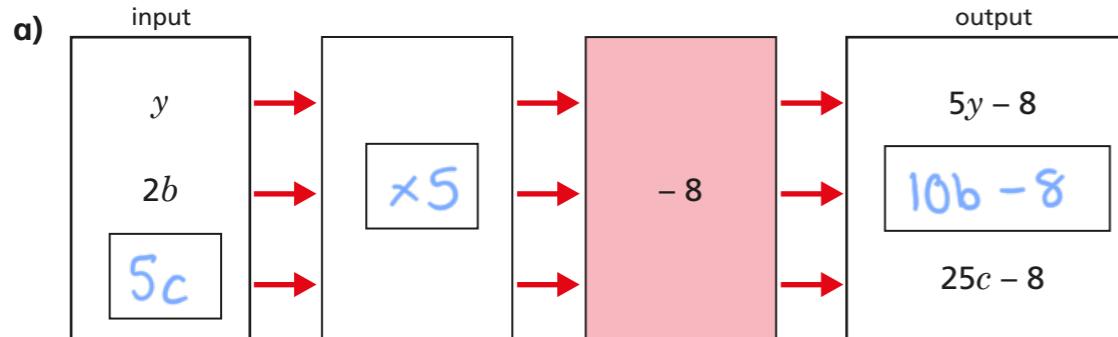
$$y \rightarrow + 5 \rightarrow \div 3 \rightarrow \frac{y+5}{3}$$

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

Same operations different order.

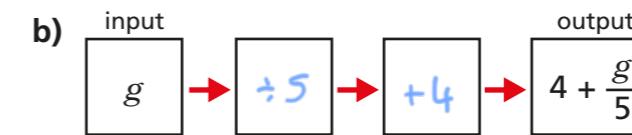
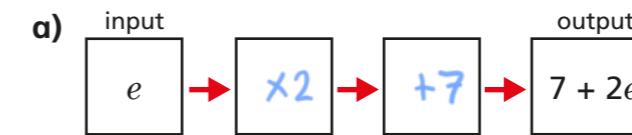
6

Complete the function machines.



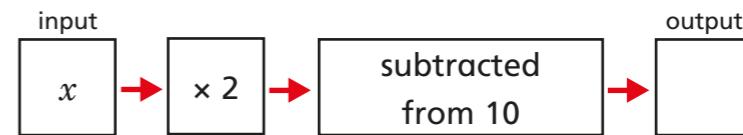
7

Complete these 2-step function machines.



8

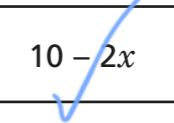
Here is a function machine.



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

$2x - 10$

$10 - 2x$



Explain your answer.

Subtracted from 10 not subtract 10