Forming expressions

1 Tommy uses multilink cubes to represent an unknown number and base ten ones to represent 1

$$\boxed{} = x \qquad \boxed{} = 1$$
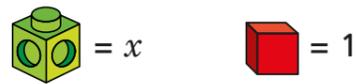
Write algebraic expressions to describe the sets of cubes.

The first one has been done for you.

a) $2x + 3$

b) _____

c) _____

d) _____

e) _____

f) _____

g) _____

h) _____

2 Use Tommy's method to represent these expressions.

a) $x + 2$ **c)** $3x + 1$

**b)** $2x$ **d)** $x + 6$

Compare answers with a partner.

3 Use cubes to help you simplify the following expressions.

The first one has been done for you.
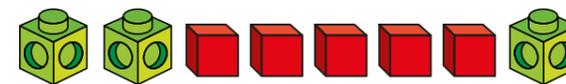
a) $2y + 5 + y$ $3y + 5$

**b)** $3a + 2 + a + a$ _____
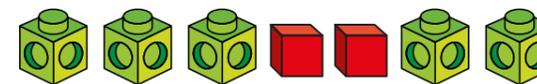
c) $6p + 2 - 2p$ _____

d) $m + 4 + 3m - 3$

_____

4 Complete the function machines.

a)

input		output
2	→	6
7	→	11
y	→	

b)

input		output
2	→	4
5	→	10
y	→	

c)

input		output
6	→ →	3
12	→ →	9
y	→ →	

d)

input		output
30	→ →	3
50	→ →	5
y	→ →	
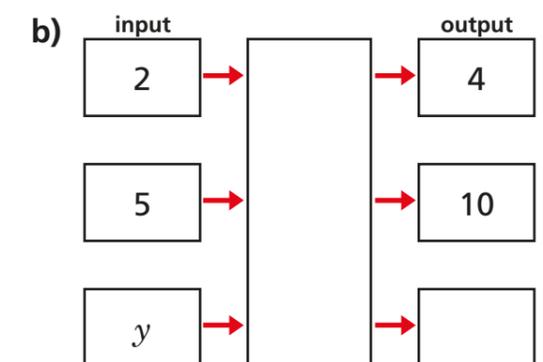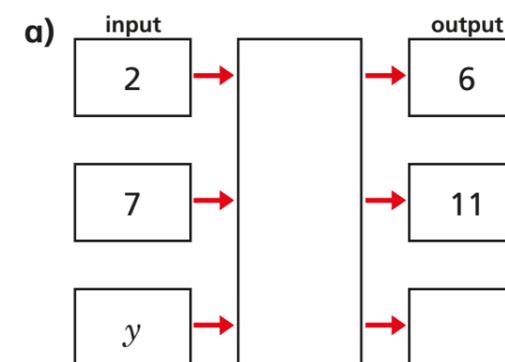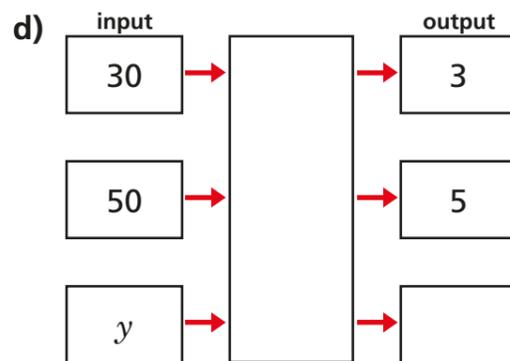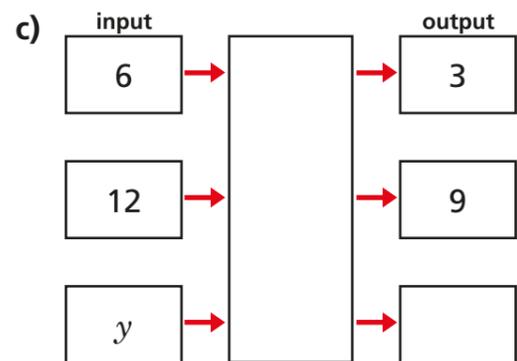
5 Match each statement to the equivalent algebraic expression.

Write the missing statements.

|	
5 more than y	$2y$
y less than 5	$y - 5$
y multiplied by 5	$5 - y$
y divided by 5	$y + 5$
double y	$5y$
	y^2
	$\dfrac{y}{5}$

6 Write an algebraic expression to represent the perimeter of each shape.

a)

_____

b)

_____

c)

_____

d)

_____

e)

_____
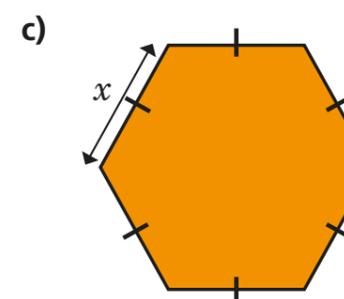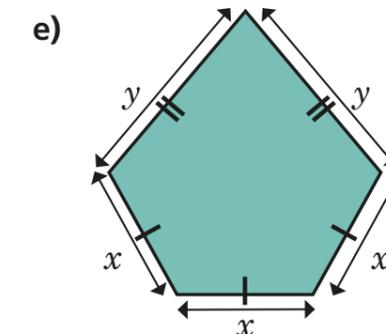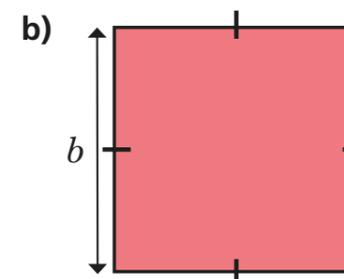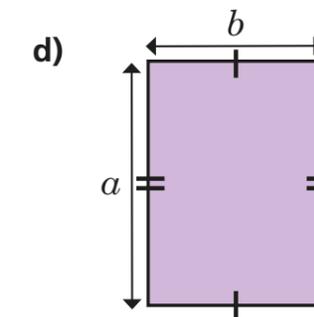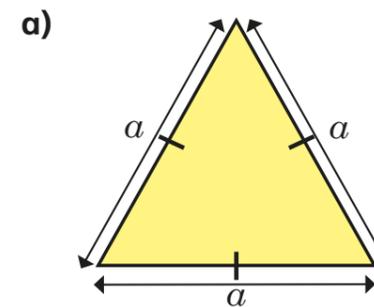
7 Complete the bar models.

a)

a	a

b)

b	b	10

c)

c		

d)

$d + 5$	
	5