

Forming expressions

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

$$\begin{array}{c} \text{green cube} \\ \text{with 3 yellow dots} \end{array} = x \quad \begin{array}{c} \text{red cube} \\ \text{with 1 yellow dot} \end{array} = 1$$

Write algebraic expressions to describe the sets of cubes.

The first one has been done for you.

a)  $2x + 3$

f)  $6x + 2$

b)  $3x + 5$

g)  5

c)  x

h)  $4 + x$

d)  $x + 3$

i)  5

e)  $2x + 4$

- 2 Use Tommy's method to represent these expressions.

a) $x + 2$

b) $2x$

c) $3x + 1$

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) $2y + 5 + y = 3y + 5$



c) $6p + 2 - 2p$



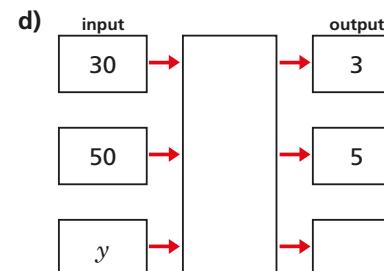
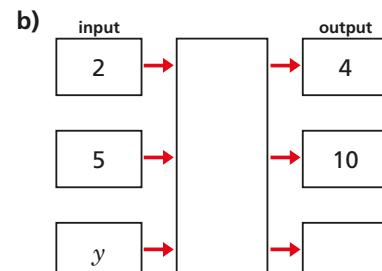
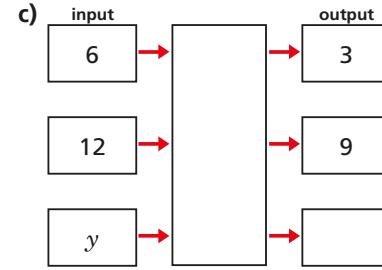
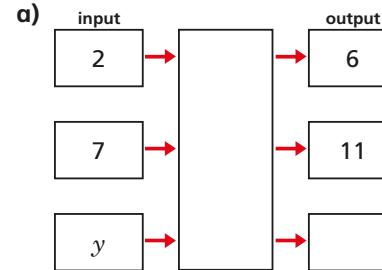
b) $3a + 2 + a + a$



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



- 4 Complete the function machines.



- 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

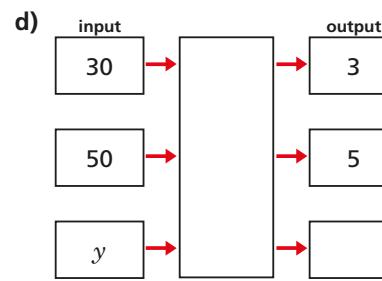
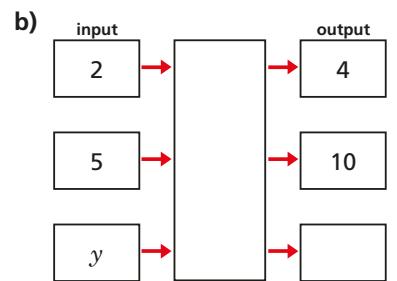
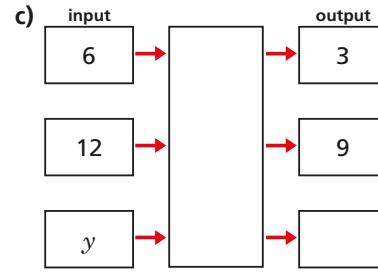
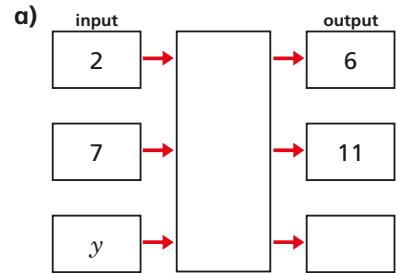
$5y$

y^2

$\frac{y}{5}$

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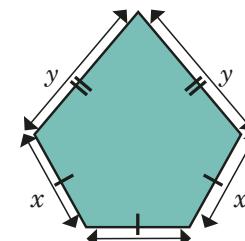
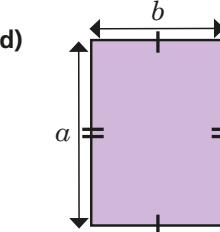
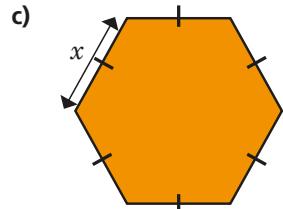
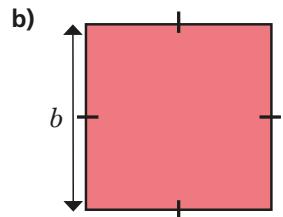
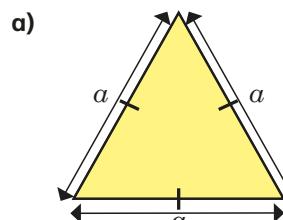
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y^2

$\frac{y}{5}$

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



- 7 Complete the bar models.

