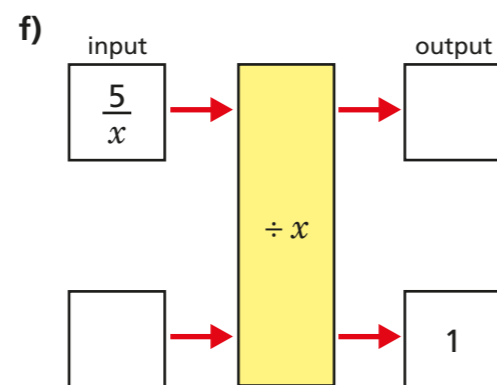
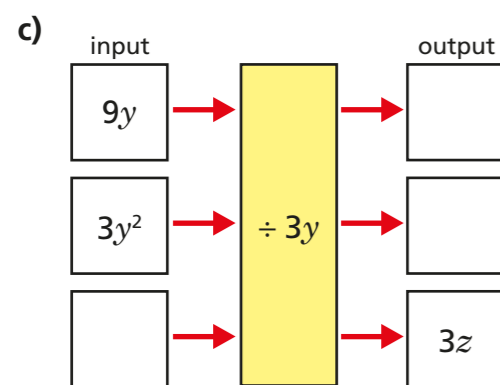
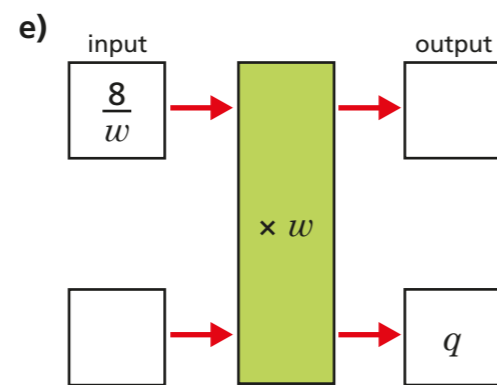
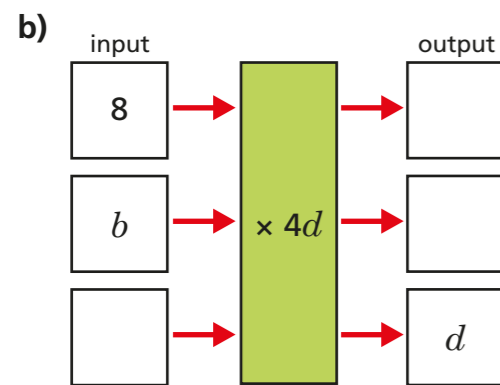
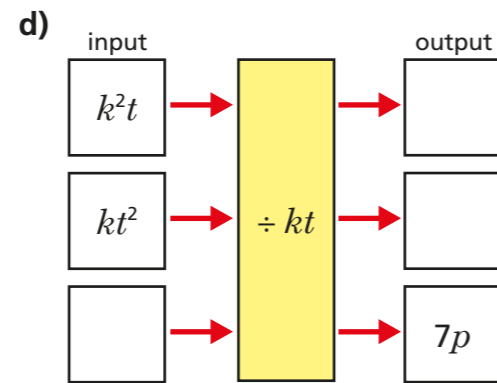
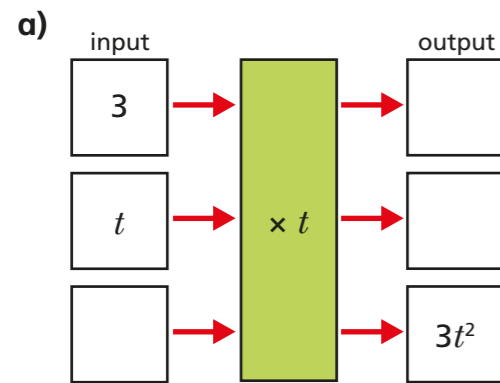


# Multiplication and division with algebra

H

1 Complete the function machines.



2 Simplify the expressions.

a)  $3 \times 5 =$

b)  $18xy \div 6 =$

$3a \times 5 =$

$18xy \div 6x =$

$3 \times 5a =$

$18xy \div xy =$

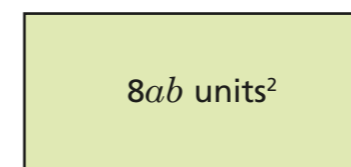
$3a \times 5a =$

$18xy \div 3xy =$

$3a \times 5b =$

$18x^2y \div 3xy =$

3 The area of a rectangle is  $8ab$ .



Find five possible lengths and widths. Write them in the table.

Length					
Width					

Discuss your approach with a partner. Were you systematic?



4 Sort the expressions into three groups.

$24g + 0g$	$2g \times 12g$	$g \times 4g \times 6g$
$8g^3 + 8g \times 2g^2$	$24g^2$	$\frac{24g^2}{g}$
$48g^3 \div 2g$	$\frac{48g^3}{2}$	$8g \times 3 \times g$
$12g + 12g$	$24g^3$	$3g \times 8$

Group 1	Group 2	Group 3

5 The area of a triangle is  $3p^2$   
Find four possible combinations of bases and heights that would give this area.

Base	Perpendicular height

6 a) Here are four cards showing expressions.

$\frac{3w}{r}$	$3w(r - 8)$	$\frac{2}{5}r$	$w^3 - r^2$
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Put the cards in ascending order when  $w = 5$  and  $r = 11$

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b) Find values for  $w$  and  $r$  that will change the order of the expressions.  
Show how you worked out your answer.

$w = \square$

$r = \square$

7 Explain why it is possible to simplify  $2b \times 5c$  but not  $2b + 5c$

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