

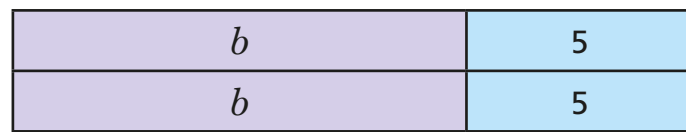
# Multiply out a single bracket



1 The bar model shows  $b + 5$



a) Discuss why this bar model shows  $2(b + 5)$



b) Draw a bar model to represent  $3(b + 5)$

2 Use the bar models to expand the brackets.

a)  $2(x + 3) \equiv$  \_\_\_\_\_      b)  $5(p + 7) \equiv$  \_\_\_\_\_

$x$	3
$x$	3

$p$	7
$p$	7
$p$	7
$p$	7
$p$	7

3 Draw bar models to help you with the expansions.

a)  $3(t + 2) \equiv$  \_\_\_\_\_

b)  $4(5 + k) \equiv$  \_\_\_\_\_

c)  $2(3p + 1) \equiv$  \_\_\_\_\_

4 Amir has expanded this bracket.

$$2(k + 5) \equiv 2 \times k + 2 \times 5$$

$$\equiv 2k + 10$$

Expand the brackets.

a)  $7(y + 4) \equiv$  \_\_\_\_\_

e)  $9(5t - 1) \equiv$  \_\_\_\_\_

b)  $5(p - 2) \equiv$  \_\_\_\_\_

f)  $3(a + b) \equiv$  \_\_\_\_\_

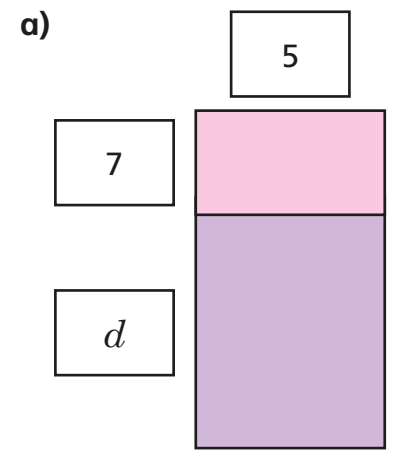
c)  $6(8 + g) \equiv$  \_\_\_\_\_

g)  $4(2m + k) \equiv$  \_\_\_\_\_

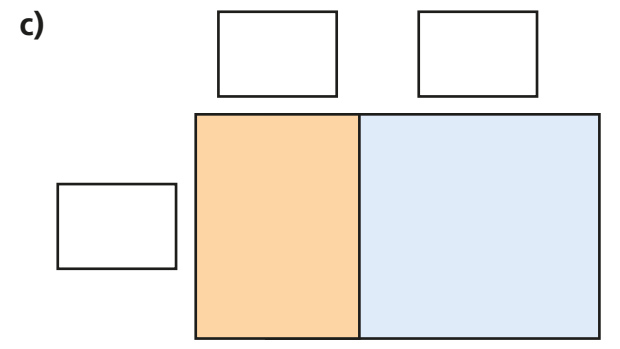
d)  $3(4e + 3) \equiv$  \_\_\_\_\_

h)  $7(3p - 2q) \equiv$  \_\_\_\_\_

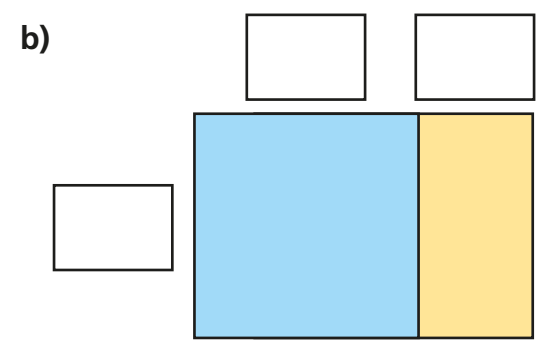
5 Use the rectangles to describe each area in an expanded form.



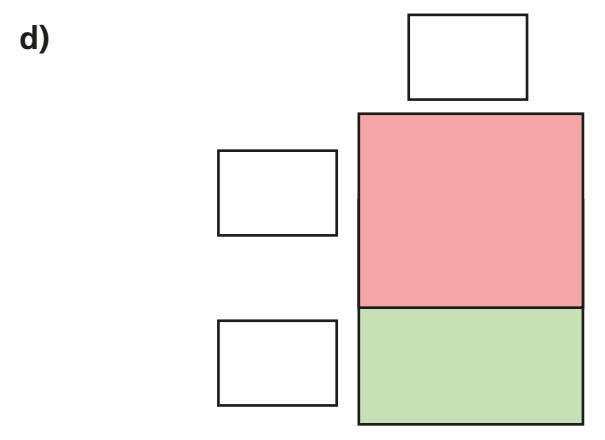
$(7 + d) \times 5 \equiv \underline{\hspace{2cm}}$



$2k(k + 2t) \equiv \underline{\hspace{2cm}}$



$n(n + 7) \equiv \underline{\hspace{2cm}}$



$ak(k + a) \equiv \underline{\hspace{2cm}}$

6 Eva expands  $4(2p - 3)$ .  
Here is her working out.

$$4(2p - 3) = 8p + 1$$

What mistake has Eva made?  
 \_\_\_\_\_  
 \_\_\_\_\_

What is the correct answer? \_\_\_\_\_

7 Fill in the boxes to make the statements correct.

a)  $2(\square + 5) \equiv 8j + 10$

b)  $\square(4k + 7) \equiv 20k + \square$

c)  $9(2m - \square) \equiv \square - 81$

8 Expand the expressions.

a)  $-3(f + 7) \equiv \underline{\hspace{2cm}}$

c)  $-5(-4 + 2k) \equiv \underline{\hspace{2cm}}$

b)  $-4(w - 6) \equiv \underline{\hspace{2cm}}$

d)  $-3n(-n - 8) \equiv \underline{\hspace{2cm}}$

9 Kim is 5 years older than Scott.  
Kim's mum is 3 times Kim's age.  
Scott's dad is 3 times Scott's age.  
How much older is Kim's mum than Scott's dad?

years

