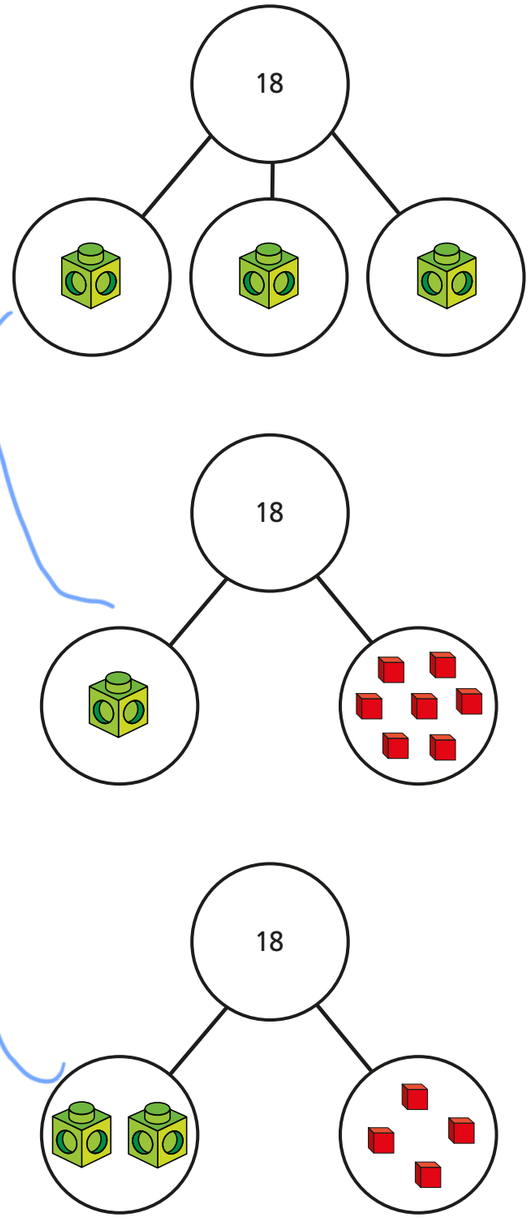
Forming equations

1 Match each equation to the part-whole model it represents.

$y + 7 = 18$

$2y + 4 = 18$

$3y = 18$



2 A shop sells these items.

a) The total cost of a scarf and a book is £17

Form an equation to represent this information.

$5 + s = 17$

b) The total cost of 2 packets of balloons and a hat is £11

Form an equation to represent this information.

$2 + h = 11$

c) The total cost of a pair of headphones, a scarf and 2 boxes of marbles is £39

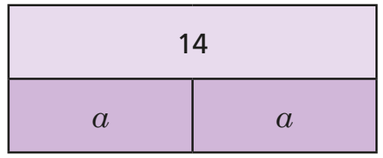
Form an equation to represent this information.

$21 + s + 2m = 39$

Create your own problem like this for a partner.

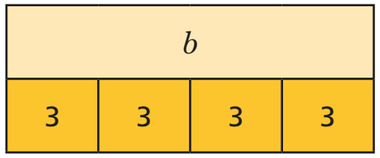
3 Write equations to represent the bar models.

a)



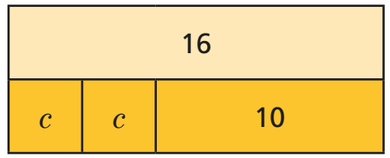
$2a = 14$

b)



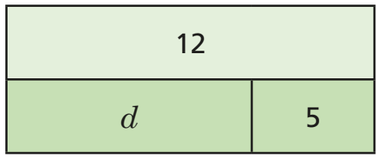
$\frac{b}{4} = 3$

c)



$2c + 10 = 16$

d)



$d + 5 = 12$

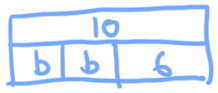
Is there more than one possible equation for each?

4 Draw a bar model to represent each equation.

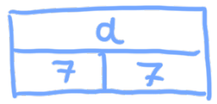
a) $3a = 21$

c) $6 + 9 = c$

b) $2b + 6 = 10$

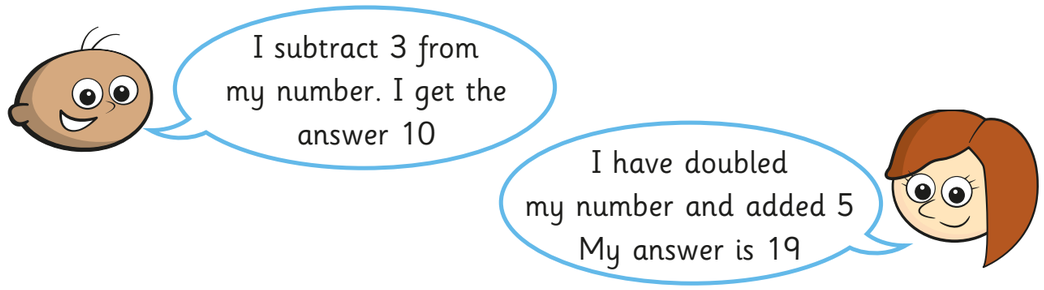


d) $\frac{d}{2} = 7$



5 Tommy and Rosie are thinking of a number each.

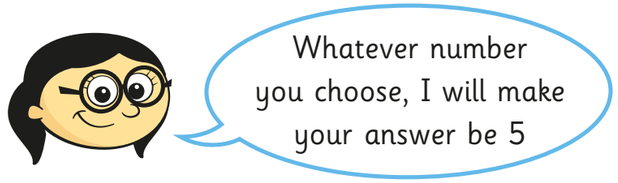
Write an equation to represent each problem.



$x - 3 = 10$

$2x + 5 = 19$

6 Annie has a number trick.



Here is Annie's trick.

Step 1: think of a number
Step 2: double it
Step 3: add 10
Step 4: divide by 2
Step 5: take away the number you first thought of

a) Pick a starting number and follow the steps.

Did you get the answer 5?

b) Use multilink cubes and base 10 ones to represent each step of Annie's trick.

What do you notice?

c) Write an expression for each step of Annie's trick.

x

$2x$

$2x + 10$

$x + 5$

5

d) Create your own problem like this for a friend.