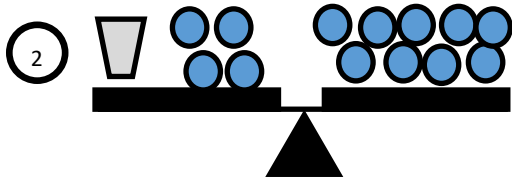B

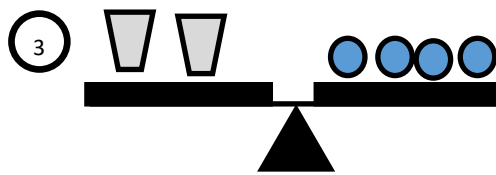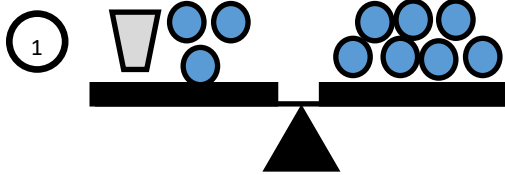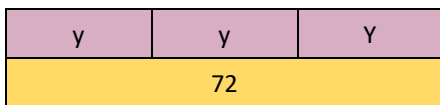**One-step problems** In each problem the cup (a) can be worth a different amount.
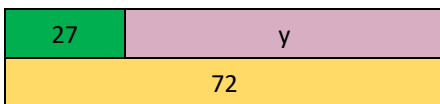
Record an equation for each scale and solve it.

①   ③

②   ④
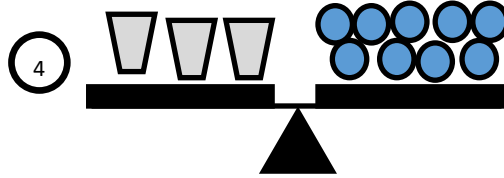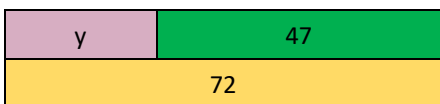
Match the bar model to an equation. Then find the value of y.

y	y	Y
72		

$y + 27 = 72$

27	y
72	

$3y = 72$

y	47
72	

$72 = 47 + y$

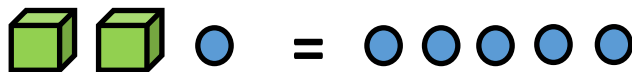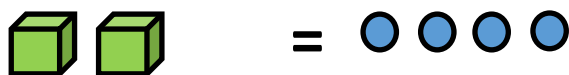**Two-step problems** An equation is represented below.

   $2b + 1 = 5$
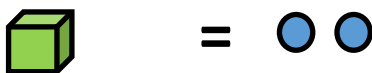
-1   -1

   $2b = 4$

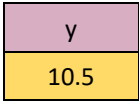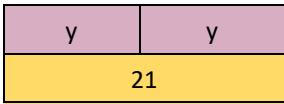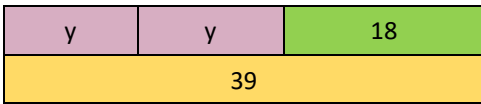÷2   ÷2

   $b = 2$

Use this process to solve the equations below. You don't have to draw the pictures, but you do need to record each step (above right).

⑤ $3y + 7 = 16$ ⑥ $49 = 7a + 7$ ⑦ $0.5 + 5c = 18$

y	y	18
39		

y	y
21	

y
10.5

8 This is an example of an equation represented by a bar model. Write the different algebraic steps shown by the bar model.

Use the bar models method to solve the equations below:

9 97 = 4b + 5

10 3f + 65 = 116

Use your preferred method to solve the problems below:

11 6a + 5a + 12—5 = 139

12 7d + 18 = 116

13 4c + 20 + c − 9 = 76

14 9d - 12 = 60