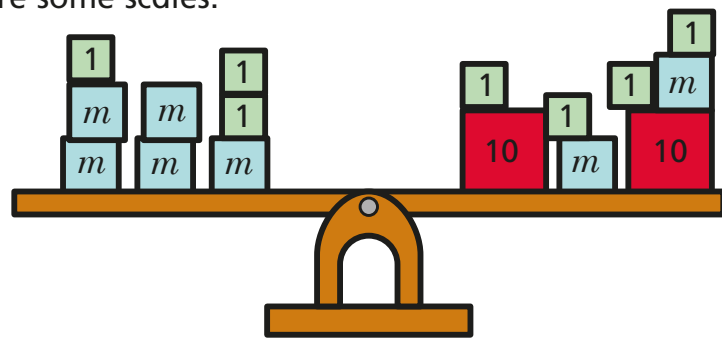


Solve equations and inequalities with unknowns on both sides

H

1 a) Here are some scales.

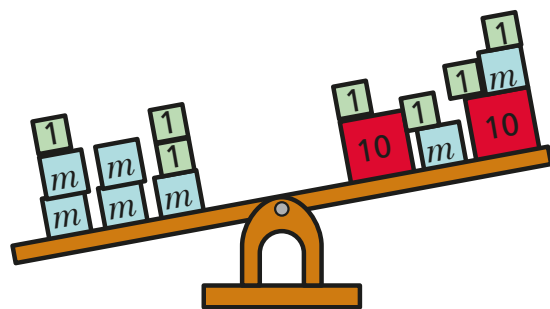


Form and solve an equation to work out the value of m .

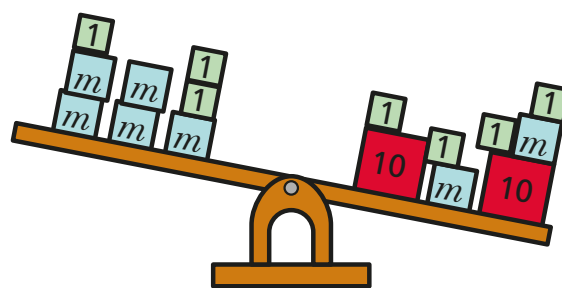
$m =$

These scales show inequalities.
Form and solve the inequalities.

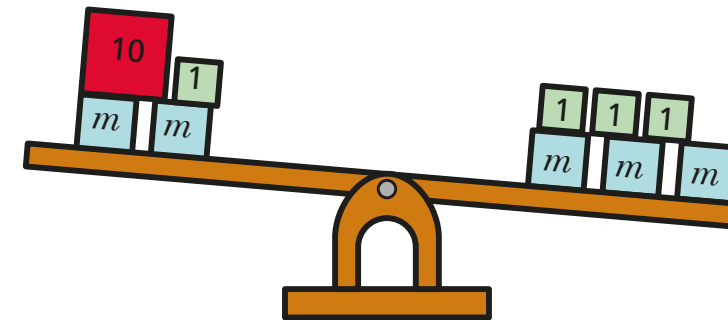
b)



c)



2 Here are some more scales.



Find the possible values of m .

3 Solve the equations.

a) $3p - 5 = p + 3$

c) $8r + 7 = 3r - 3$

$p =$

$r =$

b) $7f + 4 = 4f + 1$

d) $3y - 5 = 2y - 11$

$f =$

$y =$

4 Solve the equations.

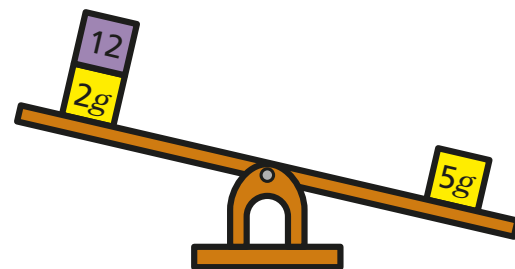
a) $6x + 9 \leq 2x + 21$

c) $4 + 5g < 3g - 8$

b) $4n + 7 \leq n - 17$

d) $10 + 9h < 20 + 5h$

5 Here are some scales.



a) Explain why $12 + 2g < 5g$.

b) Explain why g cannot equal 4

6 Solve the equation and the inequality.

$25 - 2x = 3x + 10$	$25 - 2x < 3x + 10$
$x = $	_____

What is the same and what is different?

7 Solve the equation.

$6(3b + 5) = 12(7 - 3b)$

$b =$

Compare your method with a partner's.

How many different ways can you solve the equation?

8 Solve the inequalities.

a) $w - 9 \geq 21 - 4w$

b) $-3p + 7 < p + 13$
