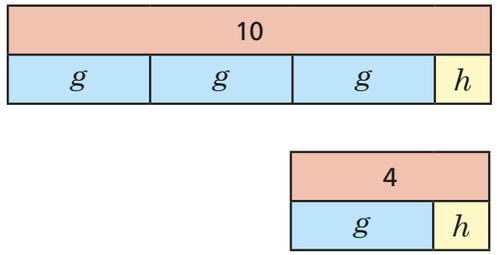
Solve a pair of linear simultaneous equations by subtracting equations

1



$3g + h = 10$

$g + h = 4$

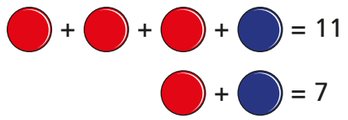
a) Use the bar models to work out the value of $2g$.

$2g =$ ☐

b) Now work out the values of g and h.

$g =$ ☐ $h =$ ☐

2 The equations $3r + b = 11$ and $r + b = 7$ are represented by the counters.



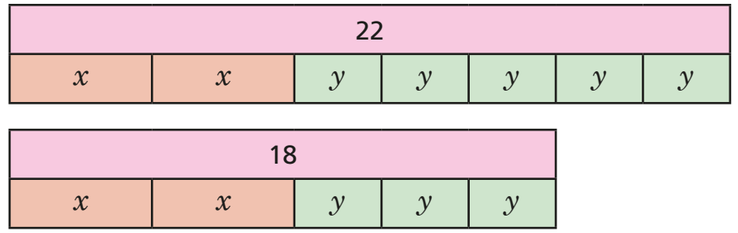
a) Find the value of a red counter by subtracting.

 = ☐

b) Now find the value of the blue counter.

 = ☐

3



$2x + 5y = 22$

$2x + 3y = 18$

Solve the simultaneous equations.

$2x + 5y = 22$

$2x + 3y = 18$

$x =$ ☐ $y =$ ☐

4 Solve the simultaneous equations.

$4x + 2y = 16$

$x + 2y = 1$

$x =$ ☐ $y =$ ☐

5 Here is a pair of simultaneous equations.

$5p + m = 9$

$5p + 3m = 7$

a) Annie has started solving the equations. Here is her working.

$2m = 2$ so $m = 1$

Explain the mistake she has made.

b) Solve the simultaneous equations.

$m =$ ☐ $p =$ ☐

6 If $15 = x + 2y$ and $27 = x + 5y$, show that $x - y = 3$

7 Here is a pair of simultaneous equations.

$$3y - 3x = 9$$
$$-2y - 3x = 4$$

a) Rosie and Tommy have each started to work out the value of y.

Rosie $y = 5$ **Tommy** $5y = 5$

Who is correct? _____

Discuss the mistakes the other person has made.

b) Work out the values of x and y.

$x =$ ☐ $y =$ ☐

8 **a)** Simplify the expression.

$5x + (-4y) - 3x - (-4y) \equiv$ _____

b) Solve the simultaneous equations.

$$5x - 4y = 7$$
$$3x - 4y = 1$$

$x =$ ☐ $y =$ ☐

9 Solve the simultaneous equations.

$$8h - 8p = 28$$
$$-8h - 8p = 4$$

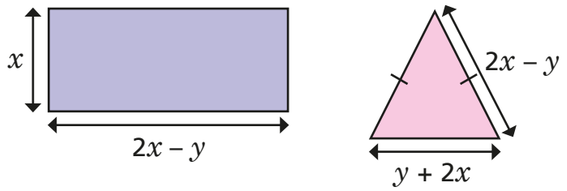
$h =$ ☐ $p =$ ☐

10 Solve the simultaneous equations.

$$2x + 4y = 0$$
$$2x = 2y - 3$$

$x =$ ☐ $y =$ ☐

11 The perimeter of the rectangle is 19 cm.
The perimeter of the isosceles triangle is 20 cm.



Calculate the area of the rectangle.

☐ cm^2