Mathematics

Manipulating systems of equations
Downloadable Resource

Ms Bridgett

Try this

Use the equations to find the following:

$$3x + 2y = p$$
$$x + y = q$$

$4x + 3y =$

$2x + y =$

$6x + 4y =$

$6x + 6y =$

What else can you find?

Connect

$$3x + 2y = 11$$
$$x + y = 3$$

How can we eliminate x or y?

Independent task

For each pair of simultaneous equations:

- Eliminate the x and then solve

- Eliminate the y and then solve

- For each one, which method was the easiest and why?

Check your solutions using substitution.

$$3x + 4y = 45$$
$$2x - y = 19$$

$$-3 = -2x + 7y$$
$$3y + 4x = 23$$

Explore

$$3x + 2y = 10$$
$$9x + 6y = 30$$

What happens when you try to solve these simultaneous equations?

Why can't they be solved?

Create your own unsolvable systems of equations.