Here is a set of five equations:

$$b + c + d + e = 4$$
$$a + c + d + e = 5$$
$$a + b + d + e = 1$$
$$a + b + c + e = 2$$
$$a + b + c + d = 0$$

What do you notice when you add the five equations?

Can you now find the values of a, b, c, d and e?

Here is a different set of equations:

$$xy = 1$$
$$yz = 4$$
$$xz = 9$$

What do you notice when you multiply the three equations given above?

Can you now find the values of x, y and z?
Is there more than one possible set of values?

Here is a third set of equations:

$$ab = 1$$
$$bc = 2$$
$$cd = 3$$
$$de = 4$$
$$ea = 6$$

Can you find all the sets of values a, b, c, d and e that satisfy these equations?

Extension

Can you create your own set of symmetrical equations?