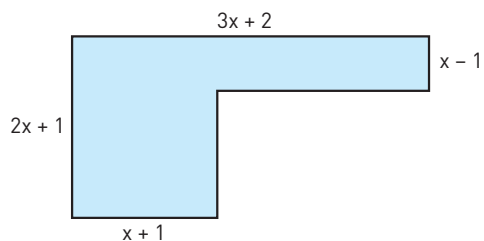


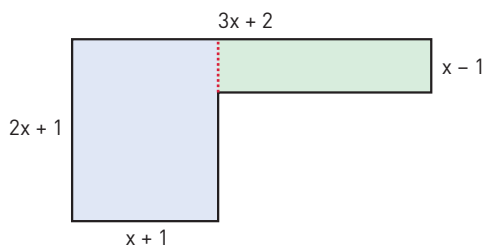
YOU & MATHS

A blue shape Write an expression for the area of the shape and simplify it.



$$[4x^2 + 2x]$$

You can think of the shape as two rectangles next to one another.



The one on the left has area:

$$(2x + 1)(x + 1) = 2x^2 + x + 2x + 1 = 2x^2 + 3x + 1,$$

and the one on the right has area:

$$[3x + 2 - (x + 1)](x - 1) = (2x + 1)(x - 1) = 2x^2 + x - 2x - 1 = 2x^2 - x - 1.$$

So the area of the shape is:

$$(2x^2 + 3x + 1) + (2x^2 - x - 1) = 4x^2 + 2x.$$