Mathematics

Distributive Property

Mrs Buckmire

Try this

How do you calculate

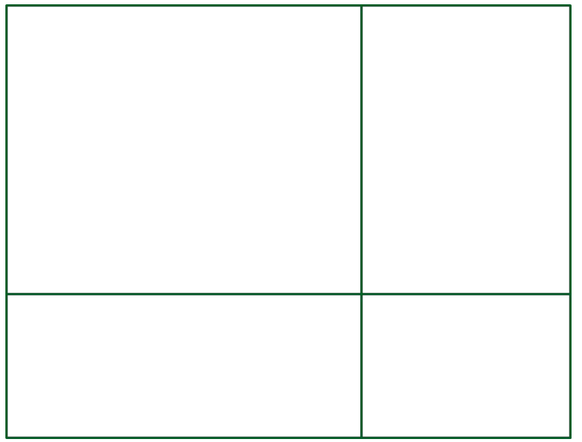
$$23 \times 42?$$

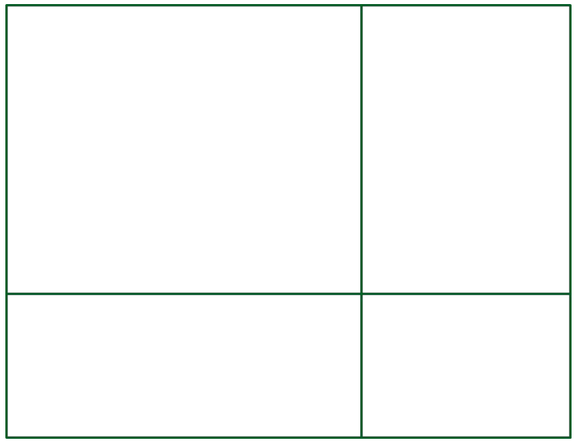
Why does your method work?

Independent task

Match the equivalent expressions.

$(x + 24)(x + 1)$	$x^2 + 11x + 24$
$(x + 6)(x + 4)$	$x^2 + 25x + 24$
$(x + 12)(x + 2)$	$x^2 + 10x + 24$
$(x + 8)(x + 3)$	$x^2 + 14x + 24$





Explore

$$(x + a)(x + b)$$

Fill out the rest of the grid and give the expanded form of each expression.

What patterns can you spot?

Can you generalise these patterns?

a increases in this direction

b increases in this direction

		$(x+1)(x+1)$ =		
	$x(x+2)$ =	$(x+1)(x+2)$ =	$(x+2)(x+2)$ =	
$(x-1)(x+3)$ $= x^2+2x-3$	$x(x+3)$ $= x^2+3x$	$(x+1)(x+3)$ $= x^2+4x+3$	$(x+2)(x+3)$ $= x^2+5x+6$	$(x+3)(x+3)$ $= x^2+6x+9$
	$x(x+4)$ =	$(x+1)(x+4)$ =	$(x+2)(x+4)$ =	
		$(x+1)(x+5)$ =		

Explore

$(x + a)(x + b)$

a increases in this direction

b increases in this direction

		$(x+1)(x+1)$ $=$		
	$x(x+2)$ $=$	$(x+1)(x+2)$ $=$	$(x+2)(x+2)$ $=$	
$(x-1)(x+3)$ $= x^2+2x-3$	$x(x+3)$ $= x^2+3x$	$(x+1)(x+3)$ $= x^2+4x+3$	$(x+2)(x+3)$ $= x^2+5x+6$	$(x+3)(x+3)$ $= x^2+6x+9$
	$x(x+4)$ $=$	$(x+1)(x+4)$ $=$	$(x+2)(x+4)$ $=$	
		$(x+1)(x+5)$ $=$		