Mathematics

Factorising Quadratics 2

Mrs Buckmire

Try this

How many different quadratics can you make by arranging the cards?

Give the expanded form of each one

$$(x - \square)(x + \square)$$

2	1
4	2

Independent task

Factorise the expressions to form an answer from the box.
Which question can you NOT factorise?
Which 4 answers do not match any of the questions?

$x^2 + x - 12$
$x^2 - 7x + 12$
$x^2 - 2x - 3$
$x^2 - 9x + 20$
$x^2 + 9x - 20$
$x^2 - 3x + 2$

(x-3)(x-1)	(x+2)(x-1)	(x-1)(x-2)
(x-4)(x-5)	(x+4)(x-3)	(x-10)(x+2)
(x-4)(x+3)	(x-4)(x-3)	(x-3)(x+1)

Explore

Does Binh's strategy always work to factorise quadratics.

$$x^2 + 8x + 12 = (x + 2)(x + 6)$$

I found all the factors of 12 and then picked the two that sum to give the coefficient of x.

For the below quadratics when doesn't it work?

Can you explain why not?

$2x^2 + 10x + 12$

$x^2 - 21x + 110$

$6x^2 - 30x - 36$

$x^2 - 13x + 22$

$2x^2 + 10x - 12$