

Factoring Trinomials Using Decomposition Notes

Factor: $2x^2 + 7x + 6$

Step1: Find the product, sum and two numbers that “work”.

Product = (First #)(Last #) = (+2)(+6) P = +12


Sum = (Middle #) = (+7) S = +7

Find two numbers that “work” +4, +3

Check: (+4) x (+3) = +12

(+4) + (+3) = +7

Step 2: Split the middle term

$$2x^2 + 7x + 6$$


$$2x^2 + 4x + 3x + 6$$

Step 3: Group in twos (first two terms and the last two terms and remove the GCF of each group.

GCF: 2x	GCF: 3
$2x^2 + 4x$	$+ 3x + 6$
$2x(x + 2)$	$+ 3(x + 2)$

Step 4: Write in factored form.

$(x + 2)(2x + 3)$