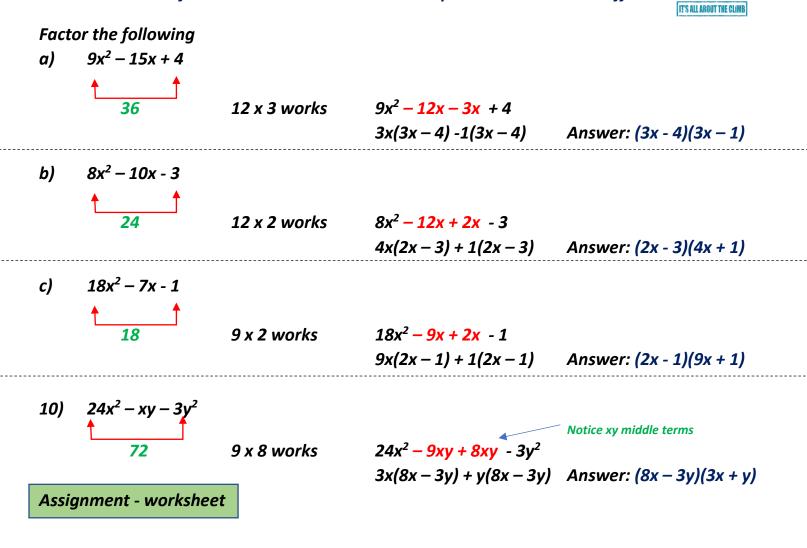
Factoring using Decomposition  $(ax^2 + bx + c)$ 

Suppose your trinomial has a number in front of the  $x^2$  (that is NOT a GCF) Then this number needs to be part of the expansion and part of the brackets

We use a method called factoring by decomp to handle this

+ 2x <sup>2</sup> + 9x - 5	Step 1: multiply first and last (2 x 5)					
	Step 2: find 2 numbers that multiply to this and add to middle (in this case 10 x 1)					
	Step 3: decompose the middle term using these 2 numbers					
$2x^2 + 10x - 1x - 5$	(notice I still put the big # first)					
	Step 4: factor GCF from first 2 and last 2 terms					
2x(x + 5) - 1(x + 5)	(notice if the brackets are the same you did it correctly)					
	Step 5: factor new GCF and state answer					
Answer: (x + 5)(2x – 1)						

It looks like a lot of work ... but the built-in check step makes it worth the effort ...



## Factoring $ax^2 + bx + c$ What do you call drawing squares on Dracula?



(cross off 2 boxes per question)

F	1					1	1		I III	
1000	BI	TH ·	TE	CH	OP	AR	AN,	EC	HS	
104	(4m – 9)	(3x + 1)	(m – 2)	(m – 3)	(2x - 5)	(3 <i>m</i> – 10)		The STATE OF THE	(5x + 1)	
	SU .	KI	LL	SS	NG	NE	SU	СК	AC	
	(6x + 1)	(15m + 1)	(x + 3)	(m + 2)	(x + 4)	(5 <i>m</i> + 3)	(x - 2)	(3 <i>m</i> + 2)	(9x + 2)	
	AB	EN	OU	GH	PI	NT	LO	VE	OD	
	(7x + 8)	(3x + 4)	(7x + 2)	(8m + 3)	( <i>m</i> + 3)	(7m + 2)	(x - 8)	( <i>m</i> – 1)	(x - 1)	
							d			
1	<i>E</i> <sub>2</sub> <sup>2</sup> 1	19x + 3		2	<i>E</i> v <sup>2</sup> 0v		3	0.2.1		
1	6X- +	19X + 3		2 $5x^2 - 9x - 2$			3	$3 \qquad 9x^2 + 15x + 4$		
	<b>-</b> 2.				2.2.2			452	. 10	
4	7x <sup>2</sup> +	x - 8		5	$2x^2 - 21$	lx + 40	6	15m <sup>2</sup> ·	+ 19m + 6	
	2				- 2 -					
7	8 <i>m</i> ² -	- 5m – 3		8	4m² – 1	7m + 18	9	14m² ·	+ 17m – 22	
1	0 3m <sup>2</sup> -	- m – 30		State 2 integers for the $\square$ so that the question can be factored						
				a) x <sup>2</sup> +	· □ <i>x</i> – 10		b)	<i>3x</i> ² - □	x + 10	
				Now try Page 178 #15,20						