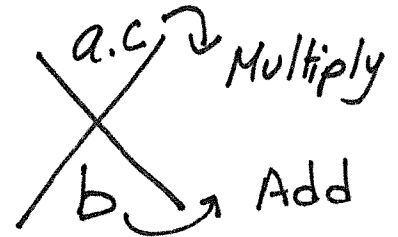


Factoring Quadratic Trinomials (Slide, Divide, Bottom up)

slide $\xrightarrow{\hspace{2cm}}$
 $(a)x^2 + bx + c$
 $x^2 + bx + a.c$



() ()

Steps	
1)	Slide (and Multiply)
2)	Divide (and Reduce fractions)
3)	Bottom up!

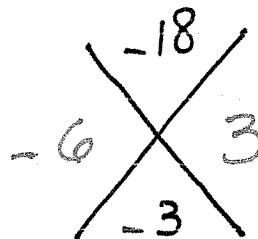
Example #1	Example #2
$(1)x^2 + 4x + 3$ $a=1$	$(7)x^2 + 29x + 4$ $a=7$
$x^2 + 4x + 3$ Slide $\xrightarrow{\hspace{2cm}}$ $x^2 + 4x + 3$ b a.c	$x^2 + 29x + 28$
$\begin{array}{c} 3 \\ \times 1 \\ \hline 4 \end{array}$	$\begin{array}{c} 28 \\ \times 1 \\ \hline 29 \end{array}$
$(x + \frac{3}{1})(x + \frac{1}{1})$ divide by <u>a</u>	$(x + \frac{28}{7})(x + \frac{1}{7})$ * divide by <u>a</u>
bottom up! $(x+3)(x+1)$	Reduced $\frac{28}{7} = 4$ $(x+4)(x + \frac{1}{7})$ Bottom up! $(x+4)(7x+1)$

26

Examples

1. Factor

$2x^2 - 3x + 9$



$a=2$

divide

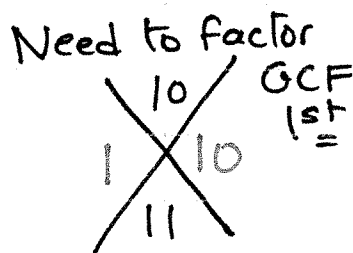
Bottom up / Reduce

$x^2 - 3x - 18$
 $(x - \frac{6}{2})(x + \frac{3}{2})$

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

2. Factor

$4x^2 + 22x + 10$



GCF: 2

$a=2$

$2(2x^2 + 11x + 5)$

$2(x^2 + 11x + 10)$

$2(x + \frac{1}{2})(x + \frac{10}{2})$

Reduce

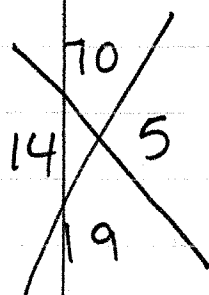
$2(x + \frac{1}{2})(x + 5)$

$2(2x + 1)(x + 5)$

3. Factor

$4x^2 + 38x + 70$

GCF: 2



$a=2$

$2(2x^2 + 19x + 35)$

$2(x^2 + 19x + 70)$

$2(x + \frac{14}{2})(x + 5)$

$2(x + 7)(2x + 5)$