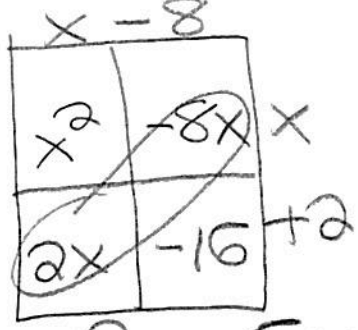
Name _____ Date _____

UNIT 7 **LESSON 4-Day 2**

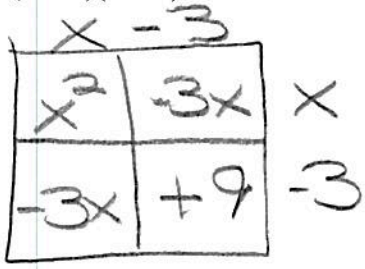
DO NOW

1. Simplify $(x - 8)(x + 2)$



$x^2 - 6x - 16$

2. Simplify $(x - 3)(x - 3)$



$x^2 - 6x + 9$

Aim: "How do we factoring using the easy tri method?"

#	Trinomial with a leading coefficient of one	Factors of the last term	Check
3.	$x^2 - 6x + 9$ $(x-3)(x-3)$	1, 9 3, 3	$(x-3)(x-3)$ $x^2 - 3x - 3x + 9$ $x^2 - 6x + 9$
4.	$x^2 - 6x - 16$ $(x-8)(x+2)$	1, 16 2, 8	$(x-8)(x+2)$ $x^2 + 2x - 8x - 16$ $x^2 - 6x - 16$
5.	$x^2 - 6x - 775$ $(x-31)(x+25)$	25, 31	$(x-31)(x+25)$ $x^2 + 25x - 31x - 775$ $x^2 - 6x - 775$

Steps to find all the factors of a number on the calculator:

1. **y = #/x(last term)**
2. Press 2nd graph to look at the table of factors

Steps for Easy Trinomial Factoring

1) "Double bubble", with an x in each ( ).
2) The first sign drops down in the 1st ( ).
3) Multiply the given signs to determine the 2nd sign.
4) Find factors of the last # that add or subtract to the middle #.
5) The bigger # goes first!
6) Check by Double Distributing.

#	Trinomial with a leading coefficient of <u>one</u>	Factors of the last term
6.	$x^2 - x - 12$ $(x-4)(x+3)$	1, 12 2, 6 **3, 4**
7.	$x^2 + 6x - 7$ $(x+7)(x-1)$	1, 7
8.	$x^2 + 5x - 24$ $(x+8)(x-3)$	1, 24 2, 12 **3, 8** 4, 6
9.	$a^2 - a - 72$ $(a+8)(a-7)$	1, 72 2, 36 3, 24 4, 18 6, 12 **7, 8**
10.	$y^2 + y - 42$ $(y+7)(y-6)$	1, 42 2, 21 3, 14 **6, 7**
11.	$x^2 - 3x - 4$ $(x-4)(x+3)$	**1, 4**
12.	$x^2 - 2x - 15$ $(x+5)(x-3)$	1, 15 **3, 5**
13.	$x^2 - 4x - 12$ $(x-6)(x+2)$	1, 12 **2, 6** 3, 4

14.	$x^2 + 4x - 60$ $(x+10)(x-6)$	1,60 2,30 3,20 4,15 5,12 **6,10**
15.	$y^2 + 3y - 10$ $(y+5)(y-2)$	1,10 **2,5**
16.	$x^2 - x - 20$ $(x+5)(x-4)$	1,20 2,10 **4,5**
17.	$a^2 - 2a - 15$ $(a-5)(a+3)$	1,15 **3,5**
18.	$y^2 + 2y - 24$ $(y+6)(y-4)$	1,24 2,12 3,8 **4,6**
19.	$x^2 - 7x - 8$ $(x-8)(x+1)$	**1,8** 2,6
20.	$x^2 - 3x - 28$ $(x-7)(x+3)$	1,28 2,14 **4,7**