You may choose your own seats - if you leave open tables in the middle of the classroom, you may be asked to move

Write down everything you remember about factoring (reverse FOIL-ing) quadratic functions?

FOIL

F	O	I	L
i	u	n	a
r	t	s	s
s	s	i	t
t	i	d	
	d	e	
	e		

$(x + 5)(x - 2) =$

$x^2 - 2x + 5x - 10 =$

$x^2 + 3x - 10$

$5 \diagdown -10 \diagup -2$
$\diagup 3 \diagdown$

Dec 10-3:22 PM

1

When we factor, we take the quadratic from Standard Form

$$ax^2 + bx + c = 0$$

to Factored Form

$$(x-d)(x-e) = 0$$
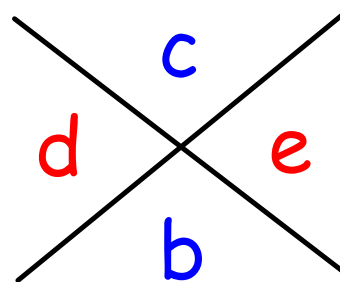
when $a = 1$, d & e are the two numbers that **multiply** to c and **add** to b.

Apr 5-8:14 AM

From your worksheet.

Solve each equation by factoring.

2) $n^2 - 7n + 12 = 0$

$(n-4)(n-3) = 0$

$6 \cdot 2$
$12 \cdot 1$
$4 \cdot 3$

12
$-4 \quad -3$
-7

$\boxed{n = 4, 3}$

10) $n^2 - 2n - 29 = 6$

$\quad\quad\quad -6 \quad -6$

$n^2 - 2n - 35 = 0$

$(n - 7)(n + 5) = 0$

-35
$-7 \quad +5$
-2

$7 \cdot 5$

$\boxed{n = 7, -5}$

When a ≠ 1, we have to guess and check or factor by grouping. We still make the X, and now look for the factors of $a \bullet c$ that add to b.
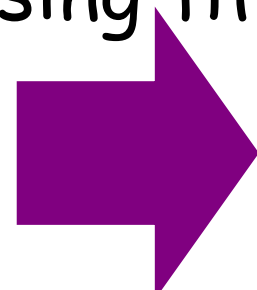
we rewrite b as $dx + ex$, $d \times e$

$a \bullet c$

b
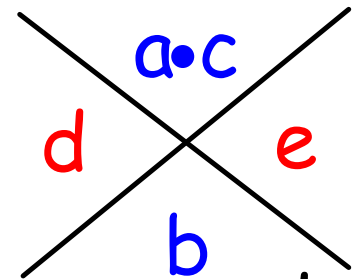
group together our first two and last two terms to factor by grouping. Let's look at the following two examples using this method.

Solve each equation by factoring.

$a = 3$
$b = 16$
$c = -64$

13) $3n^2 + 16n - 64 = 0$

$(3n^2 + 24n) - (8n - 64) = 0$

$3n(n+8) - 8(n+8) = 0$

$(n+8)(3n-8) = 0$

$n = 8/3, -8$

$3 \cdot -64$
-192

$24 \quad -8$

16

$96 \cdot 2$
$64 \cdot 3$
$32 \cdot 6$
$24 \cdot 8$
$12 \cdot 16$

$3n - 8 = 0$
$+8 \quad +8$

$\dfrac{3n}{3} = \dfrac{8}{3}$

$n = 8/3$

$a = 8$
$b = -35$
$C = 12$

19) $8a^2 - 35a + 12 = 0$

$(8a^2 - 32a) - (3a + 12) = 0$

$8a(a-4) - 3(a-4) = 0$

$(a-4)(8a-3) = 0$

$a = 4, 3/8$

$a \cdot c$
$8 \cdot 12$
96

$-32 \quad -3$

-35

$48 \cdot 2$
$32 \cdot 3$

$8a - 3 = 0$
$+3 \quad +3$

$\dfrac{8a}{8} = \dfrac{3}{8}$

18) $7p^2 + 38p - 24 = 0$

$(7p^2 + 42p) - 4p - 24 = 0$

$(7p)(p+6)(-4)(p+6) = 0$

$(p+6)(7p-4) = 0$

$p = -6, 4/7$

$a = 7$
$b = 38$
$C = -24$

$7 \cdot -24$
-168

$42 \quad -4$

38

$8 \cdot 21$
$7 \cdot 24$
$6 \cdot 28$
$(4 \cdot 42)$

Apr 5-8:22 AM

Homework

Solving Quadratics by Factoring WKS

Apr 5-8:24 AM