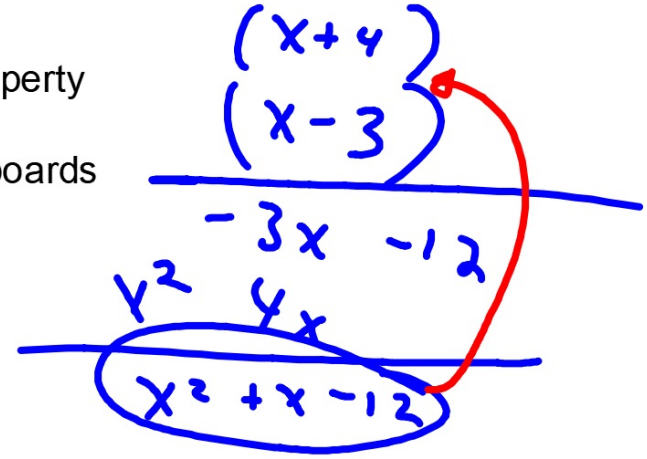
Algebra 1 8.6
Factor trinomials
Solve quadratic equations by factoring
quadratic x^2 . . . .
EWE
Factor
Zero product property
activity: x-factor
whiteboards



look at patterns...

$(x+3)(x+4) = x^2+7x+12$

$(x+1)(x+5) = x^2+6x+5$

$(x-3)(x-5) = x^2-8x+15$

$x+3$
$x+4$

$(x+2)(x+3) = x^2+5x+6$

$(x+1)(x+2) = x^2+3x+2$

$(x-6)(x-6) = x^2-12x+36$

Example 1 *b* and *c* are Positive

Factor $x^2 + 9x + 20$.

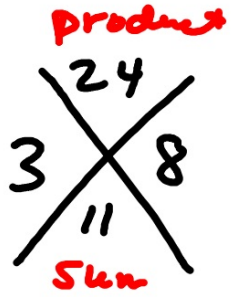
$(x+5)(x+4)$

$$\begin{array}{r} x+5 \\ x+4 \\ \hline 4x+20 \\ x^2+5x \\ \hline \end{array}$$

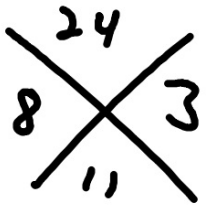
Factor each polynomial.

1A. $d^2 + 11d + 24$

$(d+3)(d+8)$



$(d+8)(d+3)$



1B. $9 + 10t + t^2$

rewrite in standard form first

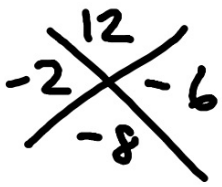
$t^2 + 10t + 9$

$(t+1)(t+9)$

Example 2 *b* is Negative and *c* is Positive

Factor $x^2 - 8x + 12$. Confirm your answer

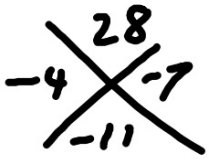
$(x-2)(x-6)$



What does "confirm your answer" mean?

2B. $w^2 - 11w + 28$

$(w-4)(w-7)$

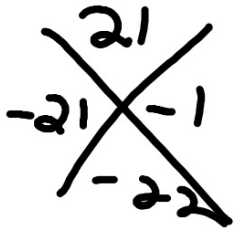


2A. $21 - 22m + m^2$

standard form

$m^2 - 22m + 21$

$(m-21)(m-1)$



1 21
3 7

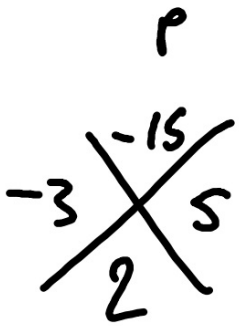
Example 3 *c* is Negative

Factor each polynomial.

a. $x^2 + 2x - 15$

$(x-3)(x+5)$

$(x+5)(x-3)$



$(x-5)(x+3)$

b. $x^2 - 7x - 18$

GuidedPractice

3A. $y^2 + 13y - 48$

3B. $r^2 - 2r - 24$