

March 28, 2012^{Alg1}
Get out Polynomials WS4



3/28 - Factoring: no lead coefficient and a negative constant

$$x^2 - 5x - 14$$

Factored form: $(x+2)(x-7)$

Detailed steps:

- Identify pairs of factors of -14 : $1 \cdot -14$, $-1 \cdot 14$, $2 \cdot -7$, $-2 \cdot 7$.
- Choose $2 \cdot -7$ because it adds up to -5 .
- Set up the box method:
 - Top-left: x^2
 - Top-right: $-5x$
 - Bottom-left: $+2x$
 - Bottom-right: $-7x$
- Combine like terms:
 - Top row: $x^2 - 7x + 2x = -5x$
 - Bottom row: -14

$$k^2 + 4k - 21$$

Factored form: $(k-3)(k+7)$

Detailed steps:

- Identify pairs of factors of -21 : $1 \cdot -21$, $-1 \cdot 21$, $3 \cdot -7$, $-3 \cdot 7$.
- Choose $3 \cdot -7$ because it adds up to 4 .
- Set up the box method:
 - Top-left: k^2
 - Top-right: $+4k$
 - Bottom-left: $-3k$
 - Bottom-right: $+7k$
- Combine like terms:
 - Top row: $k^2 + 7k - 3k = +4k$
 - Bottom row: -21

$$n^2 - 9n - 10$$

$\frac{1 \cdot 10}{2 \cdot 5}$

$$= (n+1)(n-10)$$

Opposite
sign
from
 \rightarrow

$$n^2 + 1n - 12$$

$\frac{1 \cdot 12}{2 \cdot 6}$

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

Bigger
gets
the sign
of the
middle
number

$$\begin{array}{l} v^2 + 3v - 28 \quad r^2 - 1r - 20 \\ = (v-4)(v+7) \quad = (r+4)(r-5) \end{array}$$

$$\begin{array}{l} n^2 + n - 72 \\ = (n+9)(n-8) \end{array} \quad \begin{array}{l} v^2 - 4v - 60 \\ = (v-10)(v+6) \end{array}$$

Homework

Yellow Polynomials WS5

Due

TODAY!