

Homework Quiz

Factor the following

1. $x^2 + 2x - 48$

$(x-6)(x+8)$

~~$$\begin{array}{r} -48x^2 \\ -6x \quad 8x \\ \hline 2x \end{array}$$~~

2. $2x^2 + 22x - 52$

$2(x^2 + 11x - 26)$

~~$$\begin{array}{r} -26x^2 \\ 13x \quad -2x \\ \hline 11x \end{array}$$~~

3. $2(x+13)(x-2)$

$2x^3 - 32x$

~~$$\begin{array}{r} -16x^2 \\ -4x \quad 4x \\ \hline 0x \end{array}$$~~

$2x(x-4)(x+4)$

9.6 Factoring Trinomials of the Type

$$ax^2 + bx + c$$

Steps

1. See if there is a GCF

2. Find two numbers whose product is ac and whose sum is b

$$ax^2 + bx + c$$

3. Rewrite your bx term using your new numbers

4. Group first two terms and last two terms with parenthesis

5. Find GCF of each group

6. Factor out common binomial and write what is left

$$\begin{array}{l} \cancel{ax^2} \\ \cancel{bx} \end{array}$$

Examples: $6x^2 + 5x - 4$

1. NO GCF

$$3. 6x^2 - 3x + 8x - 4$$

2.

$$\begin{array}{cc} -24x^2 & 8x \\ -3x & 5x \end{array}$$

$$4. \frac{(6x^2 - 3x)}{3x} \frac{(8x - 4)}{4}$$

$$5. 3x(2x - 1) + 4(2x - 1)$$

$$6. (2x - 1)(3x + 4)$$

Examples: $2x^2 - 3x - 2$

1. No GCF

$$3. 2x^2 - 4x + x - 2$$

2.

A large red 'X' is drawn over a 2x2 grid of terms: $-4x^2$, $-4x$, $1x$, and $-3x$.

$$4. \left(\frac{2x^2 - 4x}{2x} \right) \left(\frac{x - 2}{1} \right)$$

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

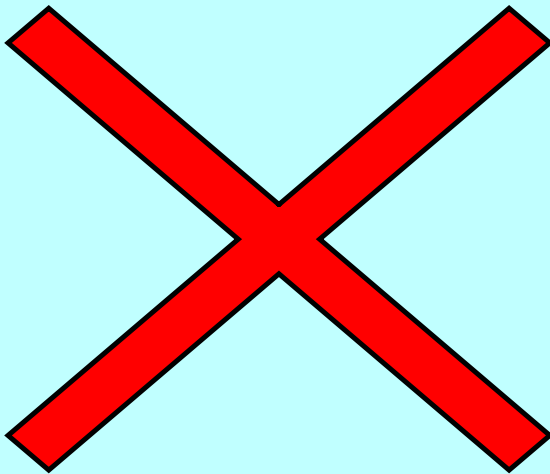
$$6. (x-2)(2x+1)$$

Examples: $6x^2 - 7x - 10$

1.

3.

2.



4.

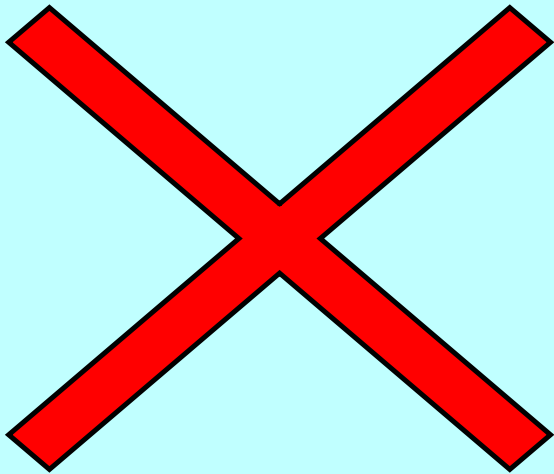
5.

Examples: $9x^2 - 26x - 30$

1.

3.

2.



4.

5.

Factoring Maze

- All work must be done on a separate piece of paper
- Write both factors under each polynomial
- If factors from one box match another box you can move to that box (we will do a few examples)

START

$x^2 + 6x + 16$ $(x+8)(x-2)$	$x^2 - 8x + 12$ $(x-6)(x-2)$
$2x^2 - 11x + 12$ $(x-4)(2x-3)$	$2x^2 - 9x - 18$
$x^2 + 4x + 3$	$2x^2 + 23x + 30$

~~$$\begin{array}{r} 12x^2 \\ -6x \quad -2x \\ -8x \end{array}$$~~

① ~~$$\begin{array}{r} -16x^2 \\ 8x \quad -2x \\ 6x \end{array}$$~~

② ~~$$\begin{array}{r} 24x^2 \\ -8x \quad -3x \\ -11x \end{array}$$~~ $(2x^2 - 8x)(3x + 12)$
 $2x(x-4) - 3(x-4)$