Name: Date: Period:

Tricky Trinomials (Trinomials with an x^2 coefficient not equal to 1)

Always make sure you cannot pull out a GCF first. Sometimes what looks like a tricky-tri may not be because you can pull out a GCF first.

Once you have identified that you have a tricky-tri, follow these FOUR steps to factor it successfully:

1. Multiply the coefficient of the x^2 term by the last term (the constant). Earmuffs
2. Factor this new trinomial.
3. PLOP the original coefficient back into the front of BOTH parenthesis.
4. If you could divide EACH set of parenthesis by a GCF, do it.

The remaining factors are the answer to factoring the tricky trinomial.

When factoring tricky-tris, it is very helpful to list out the #s 1 - 4 so you don't forget about any of the steps.

Example: Factor: $3x^2 + 2x - 5$ — Coefficent > 1

No GCF can be pulled out

$3x^2 + 2x - 5$

1. $(x^2 + 2x - 15)$ ← New trinomial from multiplying coefficient times constant
2. $(x + 5)(x - 3)$ ← New trinomial Factored
3. $(3x + 5)(3x - 3)$

PLOP the 3 back into the front of BOTH parenthesis

4. $(3x + 5)(x - 1)$ ← Divided second parenthesis by a GCF of 3

Factor the following:

1. $2x^2 + x - 6$

(1)
(2)
(3)
(4)

2. $3x^2 + 10x + 8$

(1)
(2)
(3)
(4)

3. $10x^2 - 9x + 2$

(1)
(2)
(3)
(4)

4. $16x^2 + 8x + 1$

(1)
(2)
(3)
(4)

5. $3x^2 + 14x + 15$

(1)
(2)
(3)
(4)

6. $2x^2 + 7x - 15$

(1)
(2)
(3)
(4)