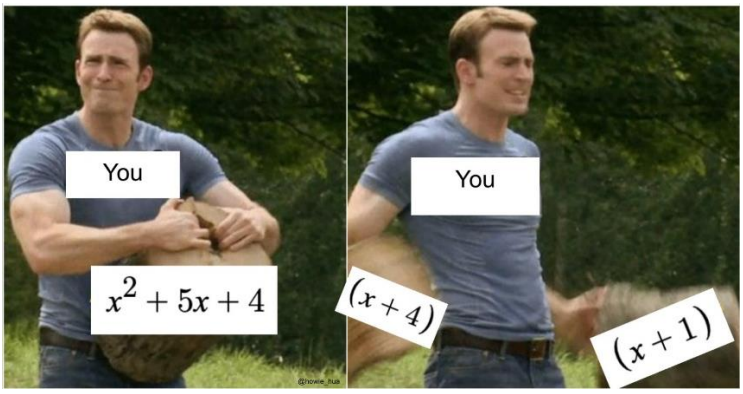
Mrs. Arnold
PC 11

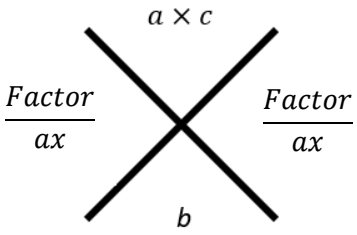
Name: _____

Factoring Methods



The Diamond Method:

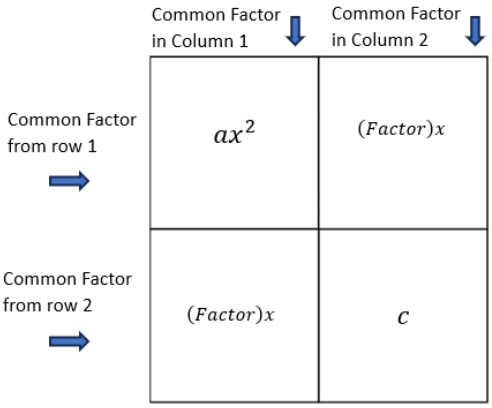
- Set up your X and add your known variables (ac,b,ax)
- Determine the factors that multiply to give you (ac) and add to give you b
- Reduce the fractions on each side (if possible)
- Write out your binomials:
  (denominator + numerator) (denominator + numerator)



1) $4x^2 - 16x + 15$

The Box Method:

- Set up your box and fill in the variables (ax^2, c)
- Determine the factors of ac and b, write them in the remaining boxes with an x
- Write out the common factor in each row and column
- Write out your final expression:
  (Row 1 + Row 2)(Column 1 + Column 2)



2) $x^2 + 2x - 24$

Factoring by Grouping:

- Determine the factors that add to give you b and multiply to give you ac
- Write these factors as a replacement for b
- Add brackets to group the terms
- Factor out the GCFs

3) $2x^2 + 13x + 15$

Difference of Squares:

4) $x^2 - 25$

5) $x^2 - 121$

Factoring Practice Questions

1) $x^2 - 4x - 5$

2) $2x^2 - 2x - 12$

3) $x^2 + 10x + 16$

4) $y = x^2 + x$

5) $x^2 + 6x + 9$

6) $3x^2 - 27x$

7) $x^2 + 9x - 10$

8) $4x^2 - 100$

9) $x^2 - 36$

10) $x^2 - 2x - 35$

11) $x^2 - 196$

12) $x^2 - 12x + 20$

Factoring Trinomials: a≠1

1) $6x^2 - x - 1$

2) $3x^2 - x - 10$

3) $2x^2 - 22x + 60$

4) $2x^2 + 3x + 1$

Challenge Question:

$9x^2 - 9x - 2$