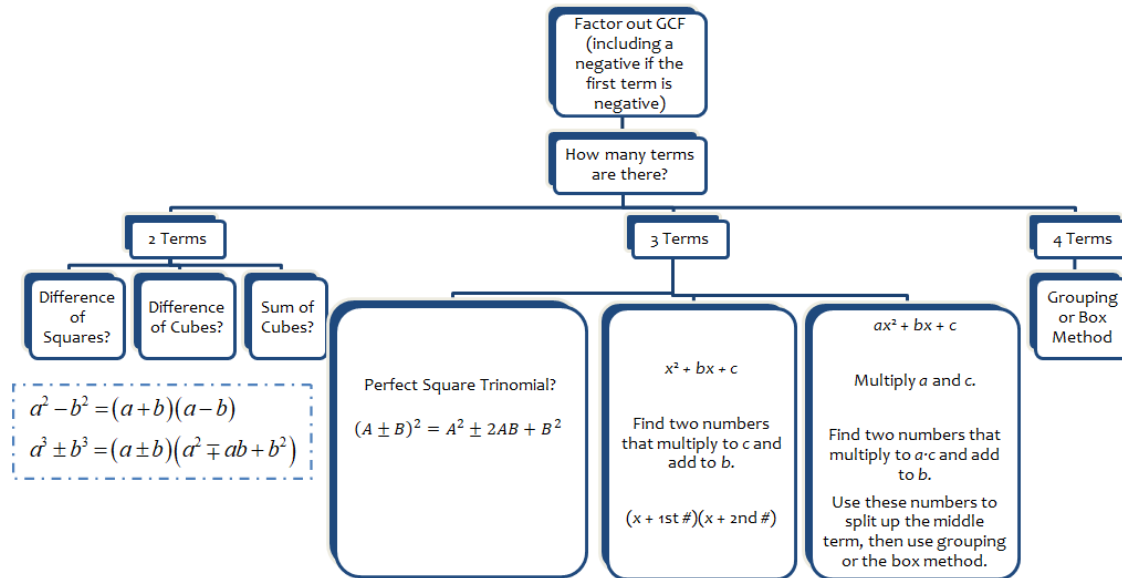
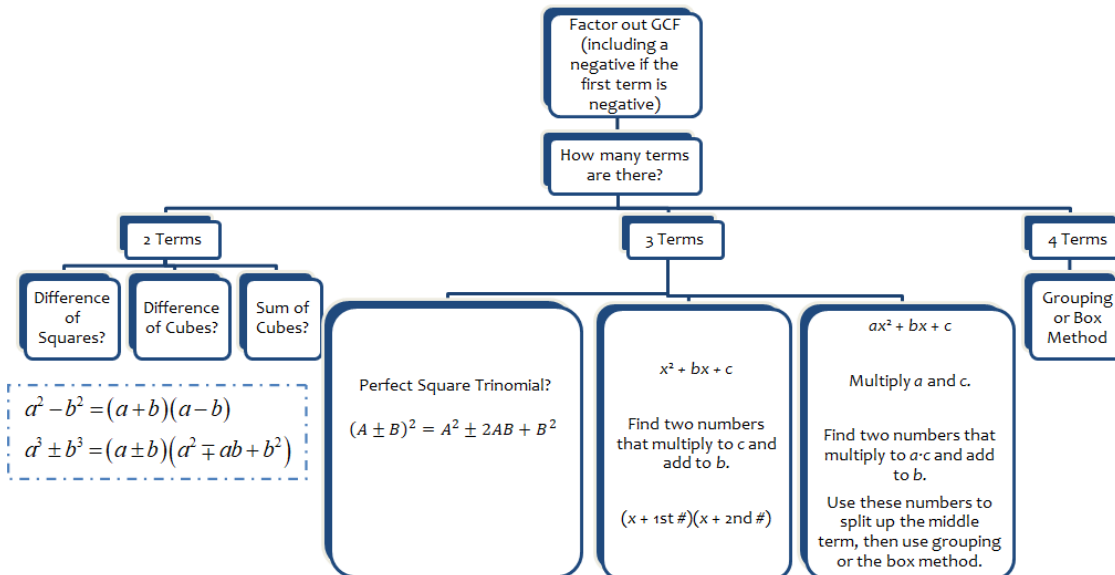


# Factoring Polynomials



|                 |   |   |    |    |     |     |     |     |     |      |     |     |     |     |     |
|-----------------|---|---|----|----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|
| Natural Numbers | 1 | 2 | 3  | 4  | 5   | 6   | 7   | 8   | 9   | 10   | 11  | 12  | 13  | 14  | 15  |
| Perfect Squares | 1 | 4 | 9  | 16 | 25  | 36  | 49  | 64  | 81  | 100  | 121 | 144 | 169 | 196 | 225 |
| Perfect Cubes   | 1 | 8 | 27 | 64 | 125 | 216 | 343 | 512 | 729 | 1000 |     |     |     |     |     |

# Factoring Polynomials



|                 |   |   |    |    |     |     |     |     |     |      |     |     |     |     |     |
|-----------------|---|---|----|----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|
| Natural Numbers | 1 | 2 | 3  | 4  | 5   | 6   | 7   | 8   | 9   | 10   | 11  | 12  | 13  | 14  | 15  |
| Perfect Squares | 1 | 4 | 9  | 16 | 25  | 36  | 49  | 64  | 81  | 100  | 121 | 144 | 169 | 196 | 225 |
| Perfect Cubes   | 1 | 8 | 27 | 64 | 125 | 216 | 343 | 512 | 729 | 1000 |     |     |     |     |     |

Examples:

GCF

$14x^2 - 35x$

$7x(2x - 5)$

Trinomial with a=1 (first term is just  $x^2$ ).

$x^2 - 7x + 12$

$(x - 3)(x - 4)$

Difference of Squares

$x^2 - 36$

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

Examples:

GCF

$14x^2 - 35x$

Trinomial with a=1 (first term is just  $x^2$ ).

$x^2 - 7x + 12$

Difference of Squares

$x^2 - 36$

Grouping

$6x^3 + 3x^2 + 10x + 5$

$3x^2(2x + 1) + 5(2x + 1)$   
 $(3x^2 + 5)(2x + 1)$

Trinomial a>1 (there is a number in front of the  $x^2$ ).

$15x^2 + x - 2$

$15x^2 + 6x - 5x - 2$   
 $3x(5x + 2) - 1(5x + 2)$   
 $(3x - 1)(5x + 2)$

Cubes ( Sum or Difference)

$x^3 + 27$

$(x + 3)(x^2 - 3x + 9)$



S  
O  
A  
P

Grouping

$6x^3 + 3x^2 + 10x + 5$

Trinomial a>1 (there is a number in front of the  $x^2$ ).

$15x^2 + x - 2$

Cubes ( Sum or Difference)

$x^3 + 27$



S  
O  
A  
P

