

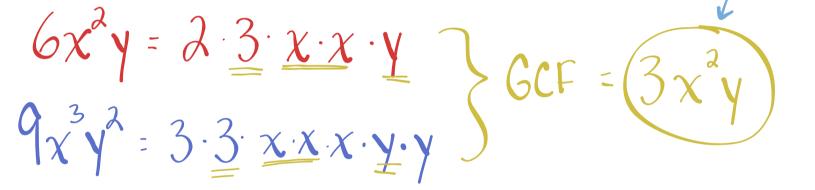
**GCF** = Greatest Common Factor (the largest number that goes into other numbers)

### ex1) What is the GCF of 18 and 27?

$$18 = 2 \cdot 3 \cdot 3$$
  
 $3 \cdot 3 \cdot 3$   
 $GCF = 3 \cdot 3 = 9$ 



## ex2) What is the GCF of 6x<sup>2</sup>y and 9x<sup>3</sup>y<sup>2</sup>?



3·x · x · y



### **Recall:** The Distributive Property

Simplify. ex4) 14a (a-2)  $=(14a^2-28a)$ 

ex5)  $4r^{2}t^{2}(5r^{3}+2rt-6t^{2})$ 

 $= (20r^{5}t^{2} + 8r^{3}t^{3} - 24r^{2}t^{4})$ 



**TO FACTOR** = to rewrite a polynomial as a product (to write as things being multiplied together)

Factor.

ex6)  $14a^2 - 28a$ =  $\frac{14a}{6cF} (a - 2)$ [effore(5) Find the GCF of all terms of the polynomial and then reverse distribute it from each term.

# ex7) $20r^{5}t^{2} + 8r^{3}t^{3} - 24r^{2}t^{4}$ = $4r^{2}t^{2}(5r^{3} + 2rt - 6t^{2})$ GCF [effore(5)

#6 and #7 are the reverse of problems #4 and #S



#### Factor by GCF.

$$= \frac{2x^3 + 4x^2 - 2x}{6x^2 + 2x - 1}$$

ex9) 
$$18x^5 + 12y^3$$
  
=  $6(3x^5 + 2y^3)$ 

GCF lettours

A GCF doesn't have to contain variables. Sometimes, there are no common variables.



### Factor by GCF.

ex10) 
$$5w^4 + 6w^3 - 7w^2 + 11w$$
  
=  $w(5w^3 + 6w^2 - 7w + 11)$   
GCF leftores

A GCF doesn't have to contain number values. Sometimes, there are no common numbers.

## ex11) **n<sup>2</sup> + 10n + 21**

These terms have no common numbers or variables. We cannot factor this trinomial by the GCF method.