Example:

Find the GCF of $15x^2yz$ and $24x^3y^2$

Step 1: Find the GCF of the coefficients by listing the factors of each number

15: 1, 3, 5, 15
24: 1, 2, 3, 4, 6, 8, 12, 24

The greatest factor that is in both 15 *and* 24 is 3.

Step 2: Find the GCF of the variables
-   Look to see which variable(s) are in ALL of the terms.
    o   In our example x and y are in both terms
    o   The variable z is not in one of the terms so it is not in the GCF

-   Find the smallest exponent of each variable
    o   The smallest exponent for x is x^2
    o   The smallest exponent for y is y

The GCF of the variables is x^2y

Step 3: Combine for GCF
The GCF of the coefficients was 3 and the GCF of the variables is x^2y

Thus, the GCF of $15x^2yz$ and $24x^3y^2$ is: **$3x^2y$**

Try Some:

Find the GCF of each set of monomials.

1.) $20x^3y$; $35xy^2$

2.) $7a^3b^4$; $21a^2b^2$

3.) $12x^3y^2$; $36x^2$

4.) $42a^4b^6$; $28ab^4$

5.) $10xy^3z^2$; $21x^2y^2z$

6.) $a^2b^4c^3$; $8ac^6$

7.) $16x^2$; $28x^5$; $32x^3$

8.) $40a^2b$; $16a^3b^3$; $32a^2$

9.) $21x^4z^2$; $24x^3y^2$

10.) $63a^3bc^3$; $36a^2b^2c$; $45ab^3c^4$