

## Finding the GCF Using Prime Factorization

Name \_\_\_\_\_

Date \_\_\_\_\_ Period \_\_\_\_\_

## Greatest Common Factor

The GCF of two number is the greatest factor both numbers have in common

Factors of 12:

1, 2, 3, 4, 6, 12

Factors of 18:

1, 2, 3, 6, 9, 18

What factors do 12 and 18 have in common?

1, 2, 3, 6

6 is the GCF of 12 and 18.

## Greatest Common Factor

The GCF of two number is the greatest factor both numbers have in common

Factors of 15:

1, 3, 5, 15

Factors of 27:

1, 3, 9, 27

What factors do 15 and 27 have in common?

1, 3

3 is the GCF of 15 and 27.

Find the GCF of two following numbers

12 and 18      Express 12 and 18 using prime factorization

Find the GCF of two following numbers

$32x^2$  and  $36x^3$       Express  $32x^2$  and  $36x^3$  using prime factorization

Find the GCF of two following numbers

$16x^2y$  and  $12xy^2$  Express  $16x^2y$  and  $12xy^2$  using prime factorization

Find the GCF of two following numbers

$25a^4b^4$  and  $15a^3b^2$  Express  $25a^4b^4$  and  $15a^3b^2$  using prime factorization

Find the GCF of two following numbers

$54s^3t^2$  and  $36s^2t^3$  Express  $54s^3t^2$  and  $36s^2t^3$  using prime factorization

Find the GCF of two following numbers

$12a^2$ ,  $15a$  and  $9a^3$  Express  $12a^2$ ,  $15a$  and  $9a^3$  using prime factorization

Find the GCF of two following numbers

$20x^2y$ ,  $24x^3y^2$  and  $16xy^3$  Express  $20s^2y$ ,  $24x^3y^2$  and  $16xy^3$  using prime factorization