

GCF of Monomials 4.2

Name: _____

Example: **Finding the greatest common factor of $18xy^2$ and $28x^2y^2$**

A) Find the prime factorization of the monomials.

$$18xy^2 = 2 \cdot 3 \cdot 3 \cdot x \cdot y \cdot y$$

$$28x^2y^2 = 2 \cdot 2 \cdot 7 \cdot x \cdot x \cdot y \cdot y$$

B) Find the **common** factors.

Circle the common factors between the two sets: 2, x, y, and y

C) The GCF is the product of the **common** factors.

Answer The GCF is $2 \cdot x \cdot y \cdot y = 2xy^2$.

	prime factorization	prime factorization	GCF
1.	$6x$ _____	$15x$ _____	_____
2.	$20x^2$ _____	$36x$ _____	_____
3.	$32y^2$ _____	$6x^2y$ _____	_____
4.	$7xy^3$ _____	$28xy^2$ _____	_____
5.	$18k$ _____	$15k^3$ _____	_____
6.	$12m^2n^3$ _____	$70m^3n$ _____	_____

Find the GCF of the monomials:

7. $12y^2, 15y^3, 5y$ _____

8. rs^3, s^3t, r^2st^2 _____

9. You want to make woven plastic bracelets. You have 3 pieces of plastic lacing with lengths 45cm, 75cm, and 60cm. You need to cut the lacing into pieces of the same length. What is the greatest possible length each piece can be without any lacing being wasted?

10. The greatest common factor of 30 and a number n is 6. Find a possible value for n . Are there other possible values for n ? Explain.