Common Factors and Greatest Common Factors of Monomials

A. Choose the Correct Answer:

1. The greatest common factor (GCF) of $6x$ and $9x^2$ is:
   a) $6x$
   b) $9x$
   c) $3x$
   d) $18x$

2. The common factors of $12a^2$ and $18a$ are:
   a) $6a^2$
   b) $6a$
   c) $12a$
   d) $18a^2$

3. Which of the following is the GCF of $8x^2y$ and $12xy^2$?
   a) $4xy$
   b) $2xy$
   c) $8xy^2$
   d) $6x^2y^2$

4. Common factor of $15pq^2$ and $25p^2q$ is:
   a) $5pq$
   b) $10pq$
   c) $5p^2q^2$
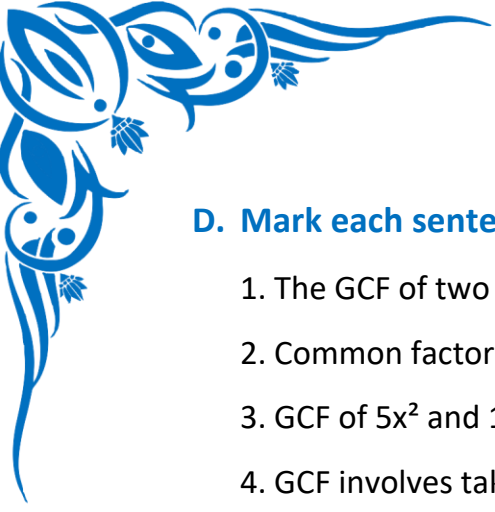   d) $15pq^2$

5. The GCF of $24x^3$ and $18x^2y$ is:
   a) $6x^2$
   b) $12x^3$
   c) $6x^3$
   d) $3x^2$

B. Write the Missing Terms to Complete the Sentences:

1. The GCF of two monomials is the product of their common _____ and common variables with the _____ powers.

2. Common factor of $9x^3$ and $12x^2$ is _____.

3. GCF of $16ab^2$ and $24a^2b$ is _____.

4. The GCF of two numbers divides each of them _____.

5. Common factors include both numbers and _____ parts.

C. Figure out the answers to these questions:

1. Find the GCF of $10x^2y$ and $15xy^2$.

2. Find the common factors of $8p^2q^3$ and $12pq^2$.

3. Find the greatest common factor of $18m^3n^2$ and $27m^2n^3$.

4. Find the GCF of $14x^2y^2$ and $21xy^3$.

5. Find the common factor of $20a^2b^3$ and $30a^3b^2$.

D. Mark each sentence with a True (✓) or False (✗):

1. The GCF of two monomials is always a monomial. _____

2. Common factors must be divisible by both expressions. _____

3. GCF of $5x^2$ and $10x$ is $5x$. _____

4. GCF involves taking the higher powers of variables. _____

5. In finding GCF, coefficients are considered separately. _____

E. Challenge yourself with these questions:

1. Find the GCF of $6x^2y$ and $9xy^2$.

2. Find the common factors of $18a^3b$ and $24ab^3$.

3. Find the greatest common factor of $16p^2q^3$ and $20pq^2$.

4. Find the GCF of $9m^2n^3$ and $15mn^2$.

5. Find the common factor of $14x^3y$ and $21x^2y^2$.