

Factors and Products

Key Ideas:

1. Prime Factorization

- used for GCF, LCM, perfect squares/cubes
- word problems

2. Factoring

- Common Factors
- PSF ("easy" and "hard")
- Difference of Squares

3. Multiplying Polynomials

***Note: Watch your positive and negative signs!! Always simplify!**

1. a) Write the **prime factorization** for the numbers 900 and 1728.

b) Find the **GCF** of these numbers.

c) Find the **LCM** of these numbers.

d) Are these numbers **perfect squares or cubes**?

2. Factor: $3x^2y^5 - 12x^3y^3$

3. Factor: $x^2 + 5x - 24$

4. Factor: $6x^2 + 13x - 5$

5. Factor: $100x^2 - 4y^4$

6. **Expand** each of the following:

a) $(2x + 5)(7x - 3)$

b) $(x - 8)^2$

c) $9 - (2x^2 - 3x + 5)(x^2 - 2x + 1)$