

Name: _____

Date: _____

Learning Goal 3.2

Given a number, a set of numbers or a polynomial expression, identify the prime factorization of each element and use it to find the GCF, LCM, perfect squares or cubes and/or factored form.

Algebra tiles are a useful model to get started with – but not sustainable.

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1. $4x + 12$

2. $10k + 20$

3. $8q^2 + 16$

So, to factor a polynomial (or any expression for that matter):

1.

2.

3.

Example

1. $8q^3p^5 - 12q^2p^{10}$

2. $12ab^2c^3 - 16a^3b^2c + 24a^4b^4c^4$

3. $-18w^4x^5yz^2 - 54xy^9z^6 - 72w^{12}x^9y^3 - 7w^2x^8z$