

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Learning Goal 1.1**

Given a polynomial expression, identify the GCF and use it to find factored form.

When finding factored form of an expression, the question is **really asking** for you to find the \_\_\_\_\_.

1. Numbers
2. Variable(s)

Consider  $8x + 4$ . Using the appropriate algebra tiles:

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Arrange the tiles into rectangles (there's more than one possibility). Draw the rectangles here. Please leave lots of space between your drawings.

Use algebra tiles to help you find different factored forms of the following expressions. Write down the factored expression next to each diagram.

a.  $4x + 12$

b.  $6m + 9$

c.  $6c + 4c^2$

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

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

- 1.
- 2.
- 3.

**Example**

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

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

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