## Algebra Tiles

### Factoring Introduction

-x2

x

-x

x

-x

1

-1

x2

Algebra tiles can be used to find the factors of various polynomials. If a polynomial can be modeled by a rectangle that has dimensions other than 1 and itself, it is factorable.

For example: the polynomial 2x + 8 can be modeled by the rectangle below.

**Step 1** Gather the appropriate tiles.

**Step 2** Arrange the tiles in the shape of a rectangle.

**Step 3** Write the dimensions of the rectangle. This gives you the polynomial in factored form.

Thus, 2x2 + 8 can be factored into \_\_\_\_\_\_\_\_\_\_\_\_\_ . To check, simply use the distributive property to see if you get the original polynomial back.

1. List the number and types of tiles you’d need to factor 3x + 9.
2. List the number and types of tiles you’d need to factor 3x2
3. List the number and types of tiles you’d need to factor x2 – 5x
4. Based on the tiles below, write the original polynomial and its factors.

x2

x

x

x2

x2

1

1

1

1

1

1

x

x

x

-x

-x

1

1

-x

Use Algebra Tiles to factor x2 + 5 x + 4. Then write the resulting factors.

Use Algebra Tiles to factor x2 – 2x – 8. Then write the resulting factors.