

# Algebra I

## Notes Section 8.5

### Factor $x^2 + bx + c$

#### Big Ideas

1. How to find the factors of  $c$  whose sum is  $b$ .

#### Factor Start - Finish Chart

Start	Finish

#### EXAMPLE 1 Factor.

a.  $x^2 + 11x + 18$

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b.  $x^2 + 3x + 2$

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c.  $a^2 + 7a + 10$

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d.  $t^2 + 9t + 14$

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e.  $x^2 + 8x + 12$

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f.  $x^2 + 10x + 24$

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**EXAMPLE 2** Factor.

a.  $n^2 - 6n + 8$

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b.  $x^2 - 4x + 3$

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c.  $t^2 - 8t + 12$

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d.  $x^2 - 11x + 28$

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e.  $x^2 - 5x + 6$

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f.  $y^2 - 15y + 44$

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**EXAMPLE 3** Factor.

a.  $y^2 + 2y - 15$

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b.  $m^2 + m - 20$

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c.  $w^2 + 6w - 16$

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d.  $x^2 - 3x - 28$

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e.  $x^2 - x - 6$

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f.  $x^2 - 5x - 6$

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**EXAMPLE 4** Solve the equation.

a.  $x^2 + 3x = 18$

b.  $x^2 - 3x = 28$

c.  $x^2 - 2x = 24$

**EXAMPLE 5** You are making banners to hang during school spirit week. Each banner requires 16.5 square feet of felt and will be cut as shown. Find the width of one banner.

**Step 1** Draw a diagram.



**Step 2** Use the area formula to find the width.