## Section 3.5 Polynomials of the Form $x^2 + bx + c$

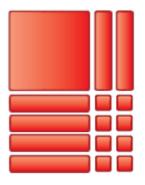
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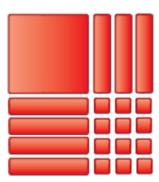
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Learning Goal 3.3

Factor trinomials of the form  $ax^2 + bx + c$ .

Yesterday we investigated how we can relate an area model to binomial products and trinomial expressions.





But again, you cannot use this model forever.

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**Example** Factor the following expression. Expand your answer to check your work.

1. 
$$x^2 + 10x + 16$$

2. 
$$x^2 - 2x - 8$$

3. 
$$z^2 - 12z + 35$$

4. 
$$m^2 - 8m + 7$$

5. 
$$a^2 + 7a - 18$$

6. 
$$q^2 - 7q - 18$$

7. 
$$p^2 + 7p - 18$$

**Example** What are all the possible values of  $\alpha$ ? For each value, factor the expression.

$$x^2 + ax + 24$$