**Completing the Square**

1. Use algebra tiles to complete the square for .



1. Start with .



1. Rearrange 6*x* to form two sides of a square.



1. Fill in units to complete the square:

1. Rewrite the expression as

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1. Draw pictures of algebra tiles to show how to complete the square for .
2. Complete the square for each of these expressions.

a. b. c.

1. Note that when the coefficient of *x* is odd, the number needed to complete the square will be a fraction. Complete the square for each of these expressions.

a. b. c.

1. Use algebra tiles to complete the square for .



1. Start with .
2. Separate into two equal groups.



1. Rearrange each group to form two sides of a square.



1. Fill in units to complete the squares.



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1. Rewrite the expression as  
    \_\_\_\_
2. Draw pictures of algebra titles to show how to complete the square for .
3. Complete the square for each of these expressions.

a. b. c. (Hint: factor out –1)

1. a. Fill in the blanks to show how to change this quadratic function in standard form to vertex form.

In this step make sure you have not changed the value of the expression.

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1. Find the vertex for this function.
2. Find the *x*-intercepts for this function.
3. Use the technique of completing the square to change each function into vertex form. Then find the vertex and the *x*-intercepts, if there are any.

a. b.