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| **The Quadratic Formula (8.2)** | **Math 098** |

Complete the square to solve 

Formula: The Quadratic Formula (MEMORIZE)

1. The solutions to  for  are given by 

Solve using the quadratic formula

1. 
2. 
3. 

Method: To solve a quadratic equation

1. If the equation can be easily written in the form  or , use the principle of square roots as in Section 8.1.
2. If Step (a.) does not apply, write the equation in the standard form .
3. Try factoring and using the principle of zero products.
4. If factoring seems to be difficult or impossible, use the quadratic formula. Completing the square can also be used, but is usually slower.

Note: The solutions of a quadratic equation can always be found using the quadratic formula. They cannot always be found by factoring.

Solve

1. 
2. 

Solve  (find all solutions).

Let  and . Find all *x* for which .