

Watch this video: <http://algebra2.flippedmath.com/63-completing-the-square.html> to review how to solve quadratic equations by completing the square. Complete the following problems.

**In 1 – 6, find the value of  $c$  that makes the expression a perfect square trinomial. Then write the expression as a binomial squared.**

1.  $x^2 + 24x + c$

2.  $x^2 - 20x + c$

3.  $x^2 + 30x + c$

4.  $x^2 + 7x + c$

5.  $x^2 - 13x + c$

6.  $x^2 + x + c$

**In 7 – 12, solve each equation by completing the square. SHOW ALL WORK!! When necessary, answers should be given as fractions or radicals in simplest form.**

7.  $x^2 + 4x = 10$

8.  $x^2 - 12x + 48 = 0$

9.  $x^2 + 8x - 14 = 0$

10.  $x^2 + 16x = 20$

11.  $3x^2 + 36x + 162 = 0$

12.  $x^2 + 5x + 9 = 0$