

**Math 0030 November 3, 2006 Homework 21**

Text problems: 10.2 # 3-13 odds, 23-31 odds

Factor the following as perfect squares:

1)  $x^2 + 12x + 36 = (x + 6)(x + 6) = (x + 6)^2$

2)  $x^2 + 8x + 16 =$

3)  $x^2 - 4x + 4 =$

4)  $x^2 + 14x + 49 =$

5)  $x^2 - 10x + 25 =$

Solve by completing the square:

6)  $x^2 + 6x - 2 = 0$  first, add 2 to both sides

$x^2 + 6x = 2$  add  $\left(\frac{6}{2}\right)^2 = (3)^2 = 9$  to both sides

$x^2 + 6x + 9 = 2 + 9$

$(x + 3)^2 = 11$  now solve by taking square roots

$x + 3 = \pm\sqrt{11}$

$x + 3 - 3 = -3 \pm \sqrt{11}$

$x = -3 \pm \sqrt{11}$

7)  $x^2 - 8x + 1 = 0$