ALGEBRA
ASSIGN #13
mP3

Name_____

Completing the Square Worksheet

To solve $ax^2 + bx + c = 0$ by "completing the square":

1) Put the variable terms are on the left of the equal sign, in standard form, and the constant term is on the right. So, get it into the form $ax^2 + bx = c$.
2) Divide by "a", so the coefficient of x^2 is 1.
3) Take one-half the coefficient of the x-term, squaring it, and adding this quantity to both sides of the equation. Basically, add $\left(\frac{b}{2}\right)^2$ to both sides.
4) Factor the Perfect Square Trinomial on the left side of the equation and simplify the right side. Remember, it always factors into $\left(x+\frac{b}{2}\right)^2$
5) Use the principle of square roots
6) Solve the remaining equation
7) Check your answer in the original equation.

Solve each equation by completing the square.

2. $x^2 + 2x = 35$

4. $8x = 4x^2 - 1$

6. $6x = 4x^2 - 1$

8. $x^2 - 7x = 18$

10. $-7x=3x^2-1$

12. $x^2+3x=40$

14. $7x=4x^2-1$