Solving Quadratics by: Completing the Square

Rather than using the ZPP, we saw we could solve quadratics when binomials were squared using the $x^2 = n$, so $x = \pm\sqrt{n}$ method

Procedure
1. **Coefficient of quadratic term must be 1**
2. **Take half of linear term**
3. **Write it down under the linear term**
4. **Square half the linear term**
5. **Add it to the polynomial**
6. **Write as a binomial square,** *use the number you wrote under the linear term*

Example   Complete the square and write as a binomial square; $x^2 + 6x$

$$x^2 + 6x + 3^2$$
$$+3$$
$$x^2 + 6x + 9 = (x + 3)^2$$

1. $x^2 + 8x +$ ___

2. $x^2 + 10x +$ ___

3. $x^2 - 6x +$ ___

4. $x^2 - 7x +$ ___

5. $x^2 + 5x +$ ___