U2 Day 9 HW – Completing the Square

Complete the square.

1. $x^2 + 6x +$ ■
2. $x^2 - 7x +$ ■
3. $x^2 + 12x +$ ■
4. $x^2 + 3x +$ ■
5. $x^2 - 8x +$ ■
6. $x^2 + 16x +$ ■
7. $x^2 + 21x +$ ■
8. $x^2 - 2x +$ ■

Complete the square to solve the quadratic equation.

9. $x^2 + 12x + 4 = 0$	**10.** $2x^2 = -2x + 5$	**11.** $x^2 = 3x$
12. $2x^2 = 4x - 5$	**13.** $x^2 = -3x + 2$	**14.** $x^2 = 7x + 12$
Complete the square to find the vertex:		
15. $y = x^2 + 3x + 3$ **Vertex: _____**	**16.** $y = 2x^2 + x - 1$ **Vertex: _____**	**17.** $y = 2x^2 - 4x + 3$ **Vertex: _____**
18. $y = x^2 - x + 1$ **Vertex: _____**	**To complete the square, *a* must be equal to ____.** **If it is not, you must _____**	**Completing the square is (easier, harder) than using the quadratic formula.**

Answer Bank

$\frac{-3\pm\sqrt{17}}{2}$ $\frac{7\pm\sqrt{97}}{2}$ $(-\frac{1}{2}, \frac{3}{4})$ $\frac{-1\pm\sqrt{11}}{2}$ $(\frac{-3}{2}, \frac{-3}{4})$ $-6\pm4\sqrt{2}$ 0, 3 (1, -5) $(-\frac{1}{4}, -\frac{9}{8})$ $\frac{2\pm i\sqrt{6}}{2}$