

6.3 Math 2 Honors Worksheet

Name _____

Converting from Standard Form to Vertex Form

Period _____ Score _____

Find the number that must be added to each expression to form a perfect square trinomial. Then write the trinomial as a binomial squared.

1. $x^2 + 6x + \underline{\hspace{2cm}}$

$(\hspace{2cm})^2$

2. $x^2 - 24x + \underline{\hspace{2cm}}$

$(\hspace{2cm})^2$

3. $x^2 + 7x + \underline{\hspace{2cm}}$

$(\hspace{2cm})^2$

Rewrite each equation in vertex form by completing the square. Then identify the vertex.

4. $y = x^2 + 8x + 5$

5. $f(x) = x^2 + 6x - 3$

6. $y = x^2 - 4x - 7$

7. $y = x^2 - 8x + 19$

8. $f(x) = x^2 + 20x + 90$

9. $y = x^2 - 10x + 22$

10. $f(x) = x^2 + 12x + 37$

11. $y = x^2 + 3x + 2$

12. $f(x) = x^2 + 7x - 3$

13. $f(x) = 2x^2 + 12x + 25$

14. $f(x) = 5x^2 + 10x - 3$

15. $y = -2x^2 + 16x + 5$

16. $f(x) = 3x^2 + 9x - 2$

17. $g(x) = 2x^2 + 10x + 1$

18. $h(x) = 4x^2 - 12x + 17$