

Math 2 Unit 11 Worksheet 1
Changing from Standard to Vertex Form

Name: _____
Date: _____ **Per:** _____

[1-9] Find the value of c in the expression that completes the square, where $c =$ _____. Then write in factored form.

1. $x^2 + 12x +$ ____

2. $x^2 + 8x +$ ____

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

4. $x^2 + 2x +$ ____

5. $x^2 - 14x +$ ____

6. $x^2 + 4x +$ ____

5. $x^2 + 6x +$ ____

8. $x^2 + 5x +$ ____

9. $x^2 + 7x +$ ____

[10-21] a) Write the following functions in vertex form by completing the square.

b) Find the vertex.

10. $y = x^2 + 6x + 7$

11. $y = x^2 - 10x - 26$

a) Vertex Form: _____

a) Vertex Form: _____

b) Vertex: (____, ____)

b) Vertex: (____, ____)

12. $y = x^2 - 18x + 57$

13. $y = x^2 + 4x + 12$

a) Vertex Form: _____

a) Vertex Form: _____

b) Vertex: (____, ____)

b) Vertex: (____, ____)

14. $y = x^2 + 16x + 20$

a) Vertex Form: _____

b) Vertex: (____, ____)

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

a) Vertex Form: _____

b) Vertex: (____, ____)

18. $y = x^2 + 14x + 32$

a) Vertex Form: _____

b) Vertex: (____, ____)

20. $y = x^2 + 12x + 24$

a) Vertex Form: _____

b) Vertex: (____, ____)

15. $y = x^2 - 12x - 8$

a) Vertex Form: _____

b) Vertex: (____, ____)

17. $y = 2x^2 + 20x + 31$

a) Vertex Form: _____

b) Vertex: (____, ____)

19. $y = 3x^2 - 18x + 16$

a) Vertex Form: _____

b) Vertex: (____, ____)

21. $y = x^2 - 2x - 4$

a) Vertex Form: _____

b) Vertex: (____, ____)