

Converting from Vertex Form to Standard Form.

$$y = 2(x-1)^2 + 7 \text{ to } y = 2x^2 - 4x + 9$$

STEPS:**1. WRITE ME TWICE, WRITE ME TWICE!!**

$$y = 2(x-1)^2 + 7$$

$$y = 2(x-1)(x-1) + 7$$

$$y = 2(x^2 - 2x + 1) + 7$$

2. RAINBOW! (Distribute the coefficient!)

$$y = 2x^2 - 4x + 2 + 7 \text{ (Remember it only goes to the parenthesis!)}$$

3. Combine Like Terms!

$$y = 2x^2 - 4x + 9$$

Done 😊

Now try these

a. $y = 3(x+2)^2 - 7$

b. $y = -4(x-5)^2 + 2$

c. $y = 6(2x+1)^2 - 1$

Convert from vertex form to **standard** form:

Remember: write twice, distribute, combine like terms

9. $y = (x+1)^2 + 3$

10. $y = (x-2)^2 - 1$

11. $y = -(x-4)^2 + 8$

12. $y = -2(x+2)^2 - 4$

13. $y = (x-5)^2 + 2$

14. $y = 3(x+1)^2 + 8$

15. $y = -(x+1)^2 + 7$

16. $y = (2x-3)^2 - 1$