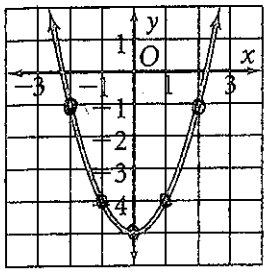
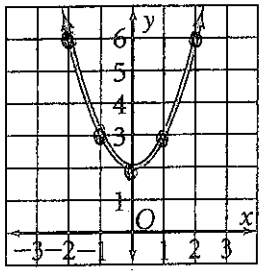
Name _____ Class _____ Date _____

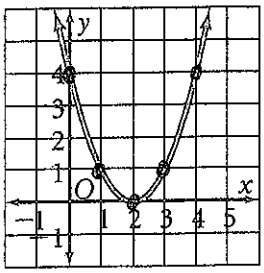
Practice 5-3

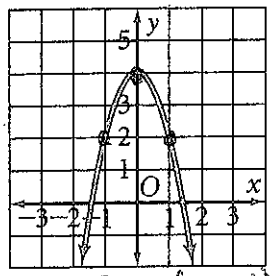
Translating Parabolas

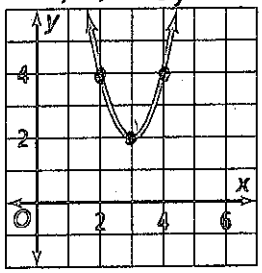
Write the equation of the parabola in vertex form.

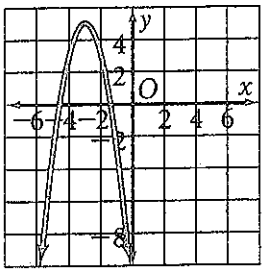
1. 

2. 

3. 

4. 
(-2, -4) (2, -4)

5. (1, 10) (5, 10)


6. 

Graph each function. At least 3 points, preferably 5!

7. $y = (x - 2)^2 - 3$
8. $y = (x - 6)^2 + 6$
9. $y = \frac{1}{2}(x - 1)^2 - 1$
10. $y = 8(x + 1)^2 - 2$
11. $y = -3(x - 1)^2 + 3$
12. $y = 3(x + 2)^2 + 4$
13. $y = \frac{1}{8}(x + 1)^2 - 1$
14. $y = \frac{1}{2}(x + 6)^2 - 2$
15. $y = 2(x + 3)^2 - 3$
16. $y = 4(x - 2)^2$
17. $y = -2(x + 1)^2 + 5$
18. $y = 4(x - 1)^2 - 2$

Write each function in vertex form. # 20, 23, 26, 29

19. $y = x^2 + 4x$
20. $y = 2x^2 + 8x + 3$
21. $y = -2x^2 - 8x$
22. $y = -x^2 + 4x + 4$
23. $y = x^2 - 4x - 4$
24. $y = x^2 + 5x$
25. $y = 2x^2 - 6$
26. $y = -3x^2 - x - 8$
27. $y = x^2 + 7x + 1$
28. $y = x^2 + 8x + 3$
29. $y = 2x^2 + 6x + 10$
30. $y = x^2 + 4x - 3$

Identify the vertex and the *y*-intercept of the graph of each function. # 32, 35, 38

31. $y = 3(x - 2)^2 - 4$
32. $y = -\frac{1}{3}(x + 6)^2 + 5$
33. $y = 2(x - 1)^2 - 1$
34. $y = \frac{2}{3}(x + 4)^2 - 3$
35. $y = (x - 1)^2 + 2$
36. $y = -3(x - 2)^2 + 4$
37. $y = 4(x - 5)^2 + 1$
38. $y = -2(x + 5)^2 - 3$
39. $y = -5(x + 2)^2 + 5$