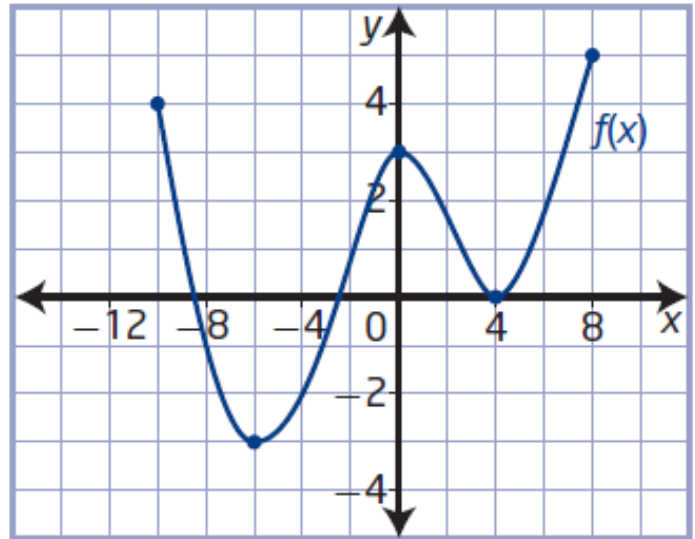
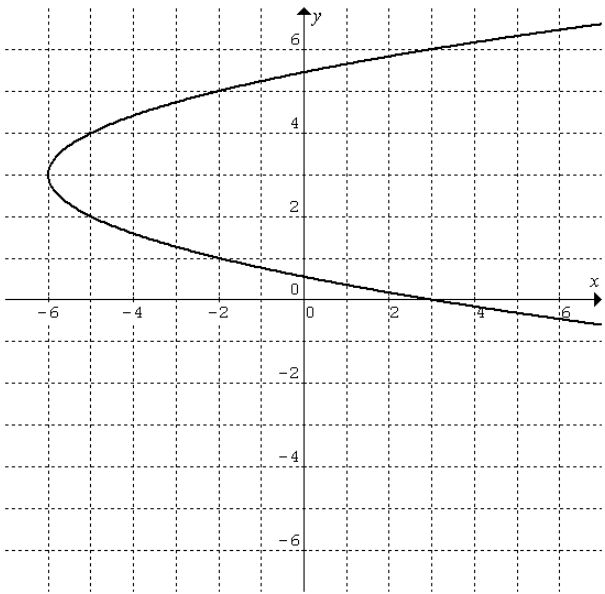
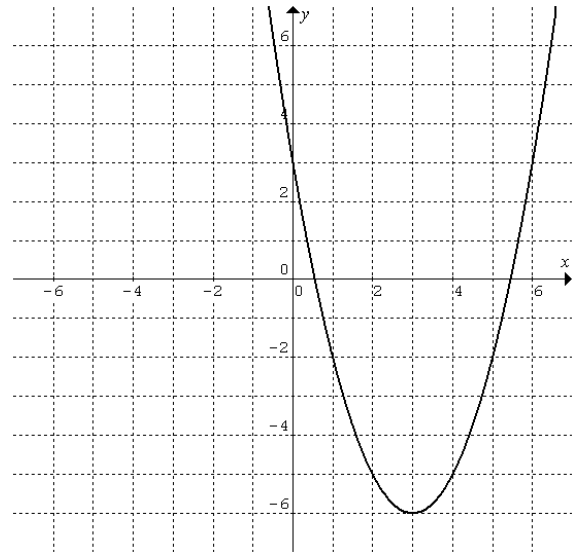
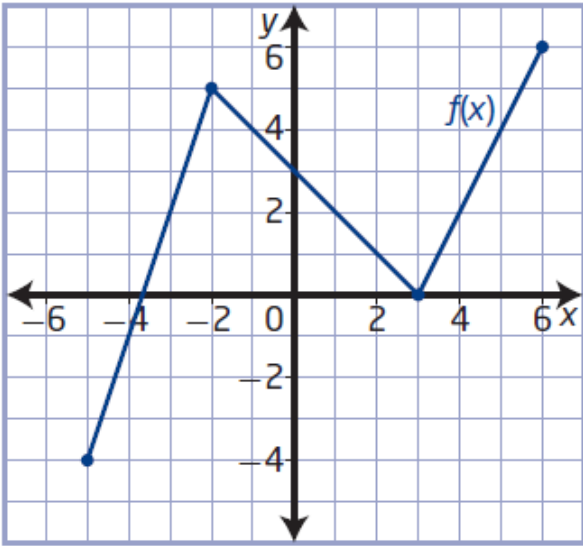


Function Inverses

Sketch the inverse. i.e. Reflect the function over the line $y = x$.



For each equation:

1. Identify the base function.
2. Describe all transformations.
3. Sketch the function $x = f(y)$.

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

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

3. $x = -y^2$

4. $x = -2(y - 1)^2 + 4$

5. $x = \frac{1}{3}(y + 2)^2 - 6$

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

7. $x = \sqrt{y - 4}$

8. $x = \sqrt{y + 3} - 2$

9. $x = -\sqrt{y}$

10. $x = -2\sqrt{y - 1} + 5$

11. $x = \frac{1}{2}\sqrt{y + 6} - 4$

12. $x = 4 - \sqrt{3 - 2y}$

For each equation:

- a. Identify the base function.
- b. Describe all transformations.
- c. Sketch the function $x = f(y)$.
- d. Rearrange algebraically to solve for y . Your goal is to get $y = f(x)$

13. $x = -3(y + 4)^2 + 1$

14. $x = 4 - (y - 2)^2$

15. $x = \frac{1}{2}(y + 6)^2 - 7$

16. $x = -5(y - 1)^2 - 3$

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

18. $x = 3\sqrt{2 - y} - 1$

19. $x = -2\sqrt{5 - y} + 6$

20. $x = \frac{3}{4}\sqrt{4y + 8} - 5$

21. $x = 8 - 3\sqrt{1 - 3y}$

22. $x = -\frac{1}{2}\sqrt{6 - 2y} + 9$