

Worksheet 3.5B

Algebra 2

Monitoring Progress and Modeling with Mathematics

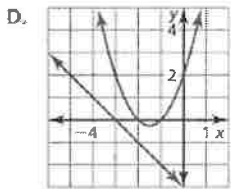
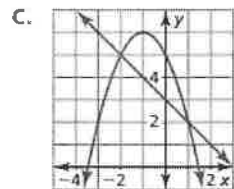
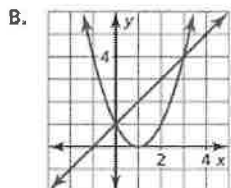
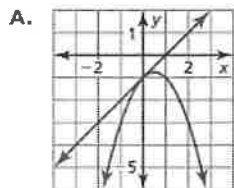
In Exercises 3–6, match the system of equations with its graph. Then solve the system.

3. $y = x^2 - 2x + 1$
 $y = x + 1$ **B**

4. $y = x^2 + 3x + 2$
 $y = -x - 3$ **D**

5. $y = x - 1$
 $y = -x^2 + x - 1$ **A**

6. $y = -x + 3$
 $y = -x^2 - 2x + 5$ **C**



In Exercises 7–12, solve the system by graphing.
(See Example 1.)

7. $y = 3x^2 - 2x + 1$
 $y = x + 7$
 $(-1, 6), (2, 9)$

8. $y = x^2 + 2x + 5$
 $y = -2x - 5$ \emptyset

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

10. $y = \frac{1}{2}x^2 - 3x + 4$
 $y = x - 2$
 $(2, 0), (6, 4)$

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

12. $y = 4x^2 + 5x - 7$
 $y = -3x + 5$
 $(-3, 14), (1, 2)$

In Exercises 13–18, solve the system by substitution.
(See Example 2.)

13. $y = x - 5$
 $y = x^2 + 4x - 5$
 $(-3, -8), (0, -5)$

14. $y = -3x^2$
 $y = 6x + 3$
 $(-1, -3)$

15. $y = -x + 7$
 $y = -x^2 - 2x - 1$
 \emptyset

16. $y = -x^2 + 7$
 $y = 2x + 4$
 $(-3, -2), (1, 6)$

17. $y - 5 = -x^2$
 $y = 5$
 $(0, 5)$

18. $y = 2x^2 + 3x - 4$
 $y - 4x = 2$
 $(-\frac{3}{2}, -4), (2, 10)$

In Exercises 19–26, solve the system by elimination.
(See Example 3.)

19. $y = x^2 - 5x - 7$
 $y = -5x + 9$
 $(-4, 29), (4, -11)$

20. $y = -3x^2 + x + 2$
 $y = x + 4$
 \emptyset

21. $y = -x^2 - 2x + 2$
 $y = 4x + 2$
 $(-6, -22), (0, 2)$

22. $y = -2x^2 + x - 3$
 $y = 2x - 2$
 \emptyset

23. $y = 2x - 1$
 $y = x^2$
 $(1, 1)$

24. $y = x^2 + x + 1$
 $y = -x - 2$
 \emptyset

25. $y + 2x = 0$

26. $y = 2x - 7$
 $y + 5x = x^2 - 2$
 $(0.8, -5.4), (6.2, 5.4)$

27. **ERROR ANALYSIS** Describe and correct the error in solving the system of equations by graphing.

X

$y = x^2 - 3x + 4$
 $y = 2x + 4$

The only solution of the system is $(0, 4)$.

The line continues and also intersects @ $(5, 14)$