

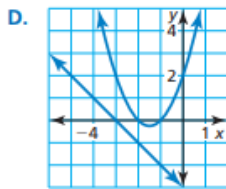
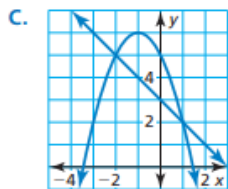
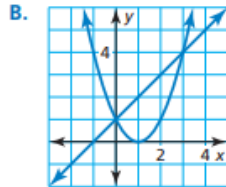
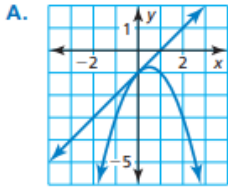
## Worksheet 3.5B

### Algebra 2

### Monitoring Progress and Modeling with Mathematics

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

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| <p>3. <math>y = x^2 - 2x + 1</math><br/><math>y = x + 1</math></p> <p>5. <math>y = x - 1</math><br/><math>y = -x^2 + x - 1</math></p> | <p>4. <math>y = x^2 + 3x + 2</math><br/><math>y = -x - 3</math></p> <p>6. <math>y = -x + 3</math><br/><math>y = -x^2 - 2x + 5</math></p> |
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In Exercises 7–12, solve the system by graphing.  
(See Example 1.)

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| <p>7. <math>y = 3x^2 - 2x + 1</math><br/><math>y = x + 7</math></p> <p>9. <math>y = -2x^2 - 4x</math><br/><math>y = 2</math></p> <p>11. <math>y = \frac{1}{3}x^2 + 2x - 3</math><br/><math>y = 2x</math></p> | <p>8. <math>y = x^2 + 2x + 5</math><br/><math>y = -2x - 5</math></p> <p>10. <math>y = \frac{1}{2}x^2 - 3x + 4</math><br/><math>y = x - 2</math></p> <p>12. <math>y = 4x^2 + 5x - 7</math><br/><math>y = -3x + 5</math></p> |
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In Exercises 13–18, solve the system by substitution.  
(See Example 2.)

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| <p>13. <math>y = x - 5</math><br/><math>y = x^2 + 4x - 5</math></p> <p>15. <math>y = -x + 7</math><br/><math>y = -x^2 - 2x - 1</math></p> <p>17. <math>y - 5 = -x^2</math><br/><math>y = 5</math></p> | <p>14. <math>y = -3x^2</math><br/><math>y = 6x + 3</math></p> <p>16. <math>y = -x^2 + 7</math><br/><math>y = 2x + 4</math></p> <p>18. <math>y = 2x^2 + 3x - 4</math><br/><math>y - 4x = 2</math></p> |
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In Exercises 19–26, solve the system by elimination.  
(See Example 3.)

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| <p>19. <math>y = x^2 - 5x - 7</math><br/><math>y = -5x + 9</math></p> <p>21. <math>y = -x^2 - 2x + 2</math><br/><math>y = 4x + 2</math></p> <p>23. <math>y = 2x - 1</math><br/><math>y = x^2</math></p> <p>25. <math>y + 2x = 0</math><br/><math>y = x^2 + 4x - 6</math></p> | <p>20. <math>y = -3x^2 + x + 2</math><br/><math>y = x + 4</math></p> <p>22. <math>y = -2x^2 + x - 3</math><br/><math>y = 2x - 2</math></p> <p>24. <math>y = x^2 + x + 1</math><br/><math>y = -x - 2</math></p> <p>26. <math>y = 2x - 7</math><br/><math>y + 5x = x^2 - 2</math></p> |
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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  $(0, 4)$ .