

5 Polynomials and Polynomial Functions



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| 2A.2.A | 5.1 Use Properties of Exponents |
| 2A.4.B | 5.2 Evaluate and Graph Polynomial Functions |
| 2A.2.A | 5.3 Add, Subtract, and Multiply Polynomials |
| 2A.2.A | 5.4 Factor and Solve Polynomial Equations |
| 2A.2.A | 5.5 Apply the Remainder and Factor Theorems |
| 2A.8.B | 5.6 Find Rational Zeros |
| 2A.8.B | 5.7 Apply the Fundamental Theorem of Algebra |
| 2A.4.B | 5.8 Analyze Graphs of Polynomial Functions |
| 2A.1.B | 5.9 Write Polynomial Functions and Models |

Before

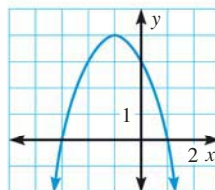
In previous chapters, you learned the following skills, which you'll use in Chapter 5: graphing functions, factoring, and solving equations.

Prerequisite Skills

VOCABULARY CHECK

Copy and complete the statement.

- The **zeros** of the function graphed are ? .
- The **maximum value** of the function graphed is ? .
- The **standard form** of a quadratic equation in one variable is ? where $a \neq 0$.



SKILLS CHECK

Graph the function. Label the vertex and the axis of symmetry.

(Review pp. 236, 245 for 5.2.)

4. $y = -2(x - 1)^2 + 4$ 5. $y = 3(x - 2)(x + 3)$ 6. $y = -x^2 - 4x + 4$

Factor the expression. (Review pp. 252, 259 for 5.4.)

7. $x^2 + 9x + 20$ 8. $2x^2 + 5x - 3$ 9. $9x^2 - 64$

Solve the equation. (Review pp. 252, 259 for 5.4–5.7.)

10. $2x^2 + x + 6 = 0$ 11. $10x^2 + 13x = 3$ 12. $x^2 + 6x + 2 = 20$



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