Algebra 2 Workbook

Factoring

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FACTORING QUADRATIC POLYNOMIALS WITH COEFFICIENTS

■ 1. Factor the quadratic.

$$6x^2 + 11x - 10$$

■ 2. Factor the quadratic.

$$3x^2 - 8x - 35$$

■ 3. Factor the quadratic.

$$20x^2 - 23x + 6$$

■ 4. Factor the quadratic.

$$4x^2 + 26x + 36$$

■ 5. Factor the quadratic.

$$14x^2 + 15x + 4$$

■ 6. Factor the quadratic.

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$$15x^2 + 26x + 8$$

7. Factor the quadratic.

$$12x^2 + 4x - 1$$

8. Factor the quadratic.

$$8x^2 - 10x - 63$$

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FACTORING BY GROUPING

■ 1. Factor the expression by grouping.

$$2x + 3y - 4ax - 6ay$$

■ 2. Factor the quadratic by grouping.

$$4x^2 + 2xy + 10x + 5y$$

■ 3. Factor the expression by grouping.

$$7y^2 - 6y^3 - 6y + 7$$

■ 4. Factor the expression by grouping.

$$8ab + 2b - 4a - 1$$

■ 5. Factor the expression by grouping.

$$9z + 9qr + 5ayz + 5ayqr$$

■ 6. Factor the quadratic by grouping.

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$3k^2 + 7k - 6$

7. Factor the quadratic by grouping.

$6x^2 + 13x - 5$

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FACTORING THE DIFFERENCE OF TWO CUBES

■ 1. Factor the polynomial.

$$x^3 - y^3$$

■ 2. Factor the polynomial.

$$x^3 - 27y^9$$

■ 3. Factor the polynomial.

$$8x^3y^6 - 64z^{21}$$

■ 4. Factor the polynomial.

$$a^3b^{12} - 125c^6$$

■ 5. Factor the polynomial.

$$x^{15} - 8m^3r^9$$

■ 6. Factor the polynomial.

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$$27y^6z^3 - 216x^9$$

■ 7. Factor the polynomial.

$$64a^3b^3 - 27c^9$$

■ 8. Factor the polynomial.

$$8x^{15} - 27y^9$$

■ 9. Factor the polynomial.

$$216a^3b^6 - 125c^{24}d^3$$

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FACTORING THE SUM OF TWO CUBES

■ 1. Factor the polynomial.

$$x^3 + y^3$$

■ 2. Factor the polynomial.

$$8x^3 + 64y^6$$

■ 3. Factor the polynomial.

$$27z^{18} + x^6y^{12}$$

■ 4. Factor the polynomial.

$$216a^{21} + 64b^{15}c^9$$

■ 5. Factor the polynomial.

$$512z^{24} + 125m^6r^3$$

■ 6. Factor the polynomial.

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$$64j^3k^6 + 8r^{12}t^6$$

■ 7. Factor the polynomial.

$$27a^6b^3 + 64c^3$$

■ 8. Factor the polynomial.

$$729x^{18} + 216y^6$$

■ 9. Factor the polynomial.

$$125a^3b^6 + 27c^{24}d^3$$

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ZERO THEOREM

■ 1. Find the zeros of the function.

$$y = x^2 - 5x + 6$$

■ 2. Find the zeros of the function.

$$y = x^2 - 4x - 5$$

■ 3. Solve for the variable.

$$f(x) = x^2 + 10x + 24$$

■ 4. Solve for the variable.

$$f(x) = 3x^2 + 7x - 6$$

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