Algebra 2 Workbook

Factoring

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COEFFICIENTS IN QUADRATICS

■ 1. Factor the quadratic.

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

■ 2. Factor the quadratic.

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

■ 3. Factor the quadratic.

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

■ 4. Factor the quadratic.

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

■ 5. Factor the quadratic.

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

■ 6. Factor the quadratic.

$8x^2 - 10x - 63$

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.

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

■ 4. Factor the expression by grouping.

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

■ 5. Factor the quadratic by grouping.

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

■ 6. Factor the quadratic by grouping.

$6x^2 + 13x - 5$

DIFFERENCE OF CUBES

■ 1. Factor the polynomial.

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

■ 2. Factor the polynomial.

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

■ 3. Factor the polynomial.

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

■ 4. Factor the polynomial.

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

■ 5. Factor the polynomial.

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

■ 6. Factor the polynomial.

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

SUM OF CUBES

■ 1. If $x^2 - 2xy^2 + 4y^4 = 5$ and $x + 2y^2 = 8$, what is the value of $8x^3 + 64y^6$?

■ 2. Factor the polynomial.

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

■ 3. Factor the polynomial.

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

■ 4. Factor the polynomial.

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

■ 5. Factor the polynomial.

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

■ 6. Factor the polynomial.

$$(x - 5)^3 + 125$$

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