

Factoring Polynomials - Greatest Common Factor



Overview of problems



Example Set: A

Find the GCF of the given monomials terms

$$6a, 3a^2$$

$$10x^3, 15x^2, 30x$$

$$7a^4, 14a^3, 28a^5$$

$$35xy^2, 25x^2y$$

$$3x^2y^2, 12xy^2, 8x^2y, 24x^2y^2$$

$$a^2b^3c^2, abc^2, a^3b^3$$



Example Set: B

Factor out the greatest common factor

$$2y^2 - 4$$

$$5x^2 - 25x^3$$

$$a^2 - 3a$$

$$14x^2 + 21x$$

$$8y^3 + 16y^2 - 8y$$



Example Set: C

Factor out the greatest common factor

$$-9x^4 + 3x^3 + 6x^2$$

$$5t^3 - 10t^2 + 5$$

$$-2x^2 + 16x$$

$$4x^3y^2 + 10x^2y^3 - 16xy^4$$

$$\frac{1}{2}x^2 - 4x + 6$$

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Overview of problems- KEY



Example Set: A

Find the GCF of the given monomials terms

$$6a, 3a^2 \quad 3a$$

$$10x^3, 15x^2, 30x \quad 5x$$

$$7a^4, 14a^3, 28a^5 \quad 7a^3$$

$$35xy^2, 25x^2y \quad 5xy$$

$$3x^2y^2, 12xy^2, 8x^2y, 24x^2y^2 \quad 1xy$$

$$a^2b^3c^2, abc^2, a^3b^3 \quad 1ab$$



Example Set: B

Factor out the greatest common factor

$$2y^2 - 4$$

$$2(y^2 - 2)$$

$$5x^2 - 25x^3$$

$$5x^2(1 - 5x)$$

$$a^2 - 3a$$

$$a(a - 3)$$

$$14x^2 + 21x$$

$$7x(2x + 3)$$

$$8y^3 + 16y^2 - 8y$$

$$8y(y^2 + 2y - 1)$$



Example Set: C

Factor out the greatest common factor

$$-9x^4 + 3x^3 + 6x^2$$

$$3x^2(-3x^2 + x + 2)$$

$$5t^3 - 10t^2 + 5$$

$$5(t^3 - 2t^2 + 1)$$

$$-2x^2 + 16x$$

$$-2x(x - 8)$$

$$4x^3y^2 + 10x^2y^3 - 16xy^4$$

$$2xy^2(2x^2 + 5xy - 8y^2)$$

$$\frac{1}{2}x^2 - 4x + 6$$

$$\frac{1}{2}(x^2 - 8x + 12)$$