

Sum and Difference of Two Cubes



Overview of problems



Example Set: A

match the expression with it's factors

$$x^3 - 8$$

$$(3x - 4)(9x^2 + 12x + 16)$$

$$8x^3 + 27$$

$$(x - 2)(x^2 + 2x + 4)$$

$$27x^3 - 64$$

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



Example Set: B

Use the Sum and Difference rules to factor the expression.

$$x^3 + 27$$

$$8y^3 - 64$$

$$27a^3 + 125$$



Example Set: C

Use the Sum and Difference rules to factor the expression.

$$125x^3 + 216y^6$$

$$(x+3)^3 - (x+1)^3$$

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Overview of problems- KEY



Example Set: A

match the expression with it's factors

$$x^3 - 8$$

$$(3x - 4)(9x^2 + 12x + 16)$$

$$8x^3 + 27$$

$$(x - 2)(x^2 + 2x + 4)$$

$$27x^3 - 64$$

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



Example Set: B

Use the Sum and Difference rules to factor the expression.

$$x^3 + 27 \quad (x + 3)(x^2 - 3x + 9)$$

$$8y^3 - 64 \quad 8(y - 2)(y^2 + 2y + 4)$$

$$27a^3 + 125 \quad (3a + 5)(9a^2 - 15a + 25)$$



Example Set: C

Use the Sum and Difference rules to factor the expression.

$$125x^3 + 216y^6 \quad (5x + 6y^2)(25x^2 - 30xy^2 + 36y^4)$$

$$(x + 3)^3 - (x + 1)^3 \quad 2(3x^2 + 12x + 13)$$