

Follow-up questions to online notes

Use the ***difference of two squares*** pattern $A^2 - B^2 = (A - B)(A + B)$ to FACTOR the following.

Use the ***perfect square trinomial*** pattern $(A + B)^2 = A^2 + 2AB + B^2$ to EXPAND the following.

Introducing the Sum and Difference of Cubes

Confirm both patterns below by expanding the **right side** and matching it to the left.

SUM OF CUBES

$$A^3 + B^3 = (A + B)(A^2 - AB + B^2)$$

DIFFERENCE OF CUBES

$$A^3 - B^3 = (A - B)(A^2 + AB + B^2)$$

What patterns do I see that will help me remember these patterns?

Using the Sum and Difference of Cubes Patterns to Expand Polynomials

SUM OF CUBES

$$A^3 + B^3 = (A + B)(A^2 - AB + B^2)$$

$$m^3 + 27$$

$$16a^3 + 54$$

DIFFERENCE OF CUBES

$$A^3 - B^3 = (A - B)(A^2 + AB + B^2)$$

$$8a^3 - 27$$

$$16a^3 - 2$$

Mixed Practice

$$(x - 4)^2$$

$$2x^2 - 8$$

$$3x^3 - 81$$

$$x^3 - 8$$

$$x^3 + 1000$$

$$64x^3 + 9$$

$$(2x + y)^2$$

$$\frac{1}{8}x^3 - \frac{1}{27}$$

$$x^6 + 1$$

