Name _____

Factoring the Sum and Difference of Two Cubes

Date _____ Period _____

Common Cubes

x	1	2	3	4	5	6
x^3	1	8	27	64	125	216

Factoring Sum and Difference of Two Cubes

Sum of Two Cubes

$$a^3 + b^3 = (a + b)(a^2 - ab + b^2)$$

Difference of Two Cubes

$$a^3 - b^3 = (a - b)(a^2 + ab + b^2)$$

Sum of Two Cubes

$$a^3 + b^3 = (a + b)(a^2 - ab + b^2)$$

Difference of Two Cubes

$$a^3 - b^3 = (a - b)(a^2 + ab + b^2)$$

Factor the following

$x^3 + 8$

$x^3 - 27$

Sum of Two Cubes

$a^3 + b^3 = (a + b)(a^2 - ab + b^2)$

Difference of Two Cubes

$a^3 - b^3 = (a - b)(a^2 + ab + b^2)$

Factor the following

$8x^3 - 1$

$27x^3 + 64$

Sum of Two Cubes

$a^3 + b^3 = (a + b)(a^2 - ab + b^2)$

Difference of Two Cubes

$a^3 - b^3 = (a - b)(a^2 + ab + b^2)$

Factor the following

$x^6 - 1$

$64 + 8x^6$

Factoring Sum and Difference of Two Cubes

Sum of Two Cubes

$$a^3 + b^3 = (a + b)(a^2 - ab + b^2)$$

Difference of Two Cubes

$$a^3 - b^3 = (a - b)(a^2 + ab + b^2)$$