

## Factoring the Sum and Difference of Two Cubes

## 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

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

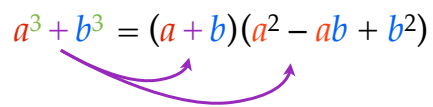
Factor the following

$$x^6 - 1$$

$$64 + 8x^6$$

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### Sum of Two Cubes

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


### Difference of Two Cubes

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