

# Factoring: Cubes

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Cubes: 1, 8, 27, 64, 125, 216, 1000

Sum of 2 cubes:  $a^3 + b^3 = (a + b)(a^2 - ab + b^2)$

Difference of 2 cubes:  $a^3 - b^3 = (a - b)(a^2 + ab + b^2)$

Sum of 2 cubes:  $x^3 + 8 =$

Difference of 2 cubes:  $x^3 - 125 =$

**ALWAYS look for a GCF first.**

1.  $125x^3 - 27y^3 =$

2.  $40x^3 + 135y^3 =$

3.  $y^4 - 2y^3 - 64y + 128 =$

4.  $12x^5y - 75x^3y - 12x^3y^3 + 75xy^3 =$