# **13.3 – Factoring Sum & Difference of Cubes**

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| **Sum & Difference of Cubes**$$a^{3}+b^{3}=\left(a+b\right)\left(a^{2}-ab+b^{2}\right)$$$$a^{3}-b^{3}=\left(a-b\right)\left(a^{2}+ab+b^{2}\right)$$ |

**Example 1:** Factor $x^{3}-8$.

**Example 2:** Factor $27x^{3}+1$.