

Factoring Sum of Cubes

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

Use the sum of cubes formula to factor the following. Don't forget to factor out the GCF if necessary.

<p>1. $x^3 + 27$ $= (x + 3)(x^2 - 3x + 9)$</p>	<p>2. $y^3 + 216$ $= (y + 6)(y^2 - 6y + 36)$</p>	<p>3. $8 + s^3$ $= (2 + s)(4 - 2s + s^2)$</p>
<p>4. $64t^3 + 1$ $= (4t + 1)(16t^2 - 4t + 1)$</p>	<p>5. $8 + 27a^3$ $= (2 + 3a)(4 - 6a + 9a^2)$</p>	<p>6. $81x^3 + 3$ $= 3(3x + 1)(9x^2 - 3x + 1)$</p>
<p>7. $3t^4 + 24t$ $= 3t(t + 2)(t^2 - 2t + 4)$</p>	<p>8. $-8x^3 - 125y^3$ $= -(2x + 5y)(4x^2 - 10xy + 25y^2)$</p>	<p>9. $x^6 + 64$ $= (x^2 + 4)(x^4 - 4x^2 + 16)$</p>
<p>10. $54ab^3 + 128a$ $= 2a(3b + 4)(9b^2 - 12b + 16)$</p>		