Live Worksheet 5 Factoring the Sum or Difference of Cubes

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

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

Factor the sum or difference of two cubes.

1) $x^3+1 = (x+1)(x^2-x+1)$

2) $y^3-8 = (y-2)(y^2+2y+4)$

3) $z^3-64 =$

$(z-4)(z^2+____z+____)$

4) $m^3+27 =$

$(m+____)(m^2-3____+____)$

5) $1-t^3 =$

$(1_____)(1+____+____^2)$

6) $125+w^3 =$

$(5+____)(____-____w+____^2)$

7) $8x^3+27 =$

$(____+3)(____x^2____x____)$

8) $64-27b^3 =$

$(4-____)(____+____b+____b^2)$

9) $8m^3+27 =$

$(____+3)(____m^2____m____)$

10) $125a^3+8b^3 =$

$(____+2b)(____a^2____ab____b^2)$

11) $216a^3-125b^3 =$

$(6a____)(____a^2____+____b^2)$

12) $64x^3-27y^3 =$

$(4x____)(____x^2____xy____y^2)$

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13) $256x^3 - 500y^3 =$

$4(4x____)(____x^2____xy____y^2)$

14) $2m^3 + 54n^3 =$

$____(m + ____)(m^2____mn____n^2)$

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