

## Sum and Difference of Cubes (ALG.FAC.06)

Factor each expression completely.

1.  $a^3 + 27$

2.  $b^3 - 8$

3.  $c^3 + d^9$

4.  $125f^6 - 1$

5.  $64g^6 - 343h^3$

6.  $2j^6 - 2j^3$

7.  $k^6 - k^4 + k^3 - k$

8.  $216m^3n^3 + 125n^3$

9.  $81n^4 - 54n^3 - 24n + 16$

10.  $64p^5 - 112p^4 - 120p^3 - 8p^2 + 14p + 15$

11.  $q^6 - 64$

12.  $x^8 - 25x^6 - 19x^5 + 475x^3 - 216x^2 + 5400$

13.  $a^6x^3 + b^3y^6$

14.  $27m^{12}n^6 + 125m^3$

15.  $r^5 + 18r^4 + 81r^3 + 729r^2 + 13122r + 59049$

16.  $t^5 + 3t^4 - 18t^3 + 216t^2 + 648t - 3888$