

Factor each completely.

1) $-27m^3 - 64$

2) $u^3 - 27$

3) $250x^3 + 2$

4) $27m^3 + 64$

5) $-64m^3 - 1$

6) $32m^3 - 4$

7) $1 + 125x^3$

8) $27x^3 + 1$

9) $64x^3 + 1$

10) $-375 - 81a^3$

11) $24a^3 - 3$

12) $2m^3 + 128$

Answers to

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|-----------------------------------|--------------------------------|--------------------------------|
| 1) $(-3m - 4)(9m^2 - 12m + 16)$ | 2) $(u - 3)(u^2 + 3u + 9)$ | 3) $2(5x + 1)(25x^2 - 5x + 1)$ |
| 4) $(3m + 4)(9m^2 - 12m + 16)$ | 5) $(-4m - 1)(16m^2 - 4m + 1)$ | 6) $4(2m - 1)(4m^2 + 2m + 1)$ |
| 7) $(1 + 5x)(1 - 5x + 25x^2)$ | 8) $(3x + 1)(9x^2 - 3x + 1)$ | 9) $(4x + 1)(16x^2 - 4x + 1)$ |
| 10) $3(-5 - 3a)(25 - 15a + 9a^2)$ | 11) $3(2a - 1)(4a^2 + 2a + 1)$ | 12) $2(m + 4)(m^2 - 4m + 16)$ |

