

Factoring: Review Worksheet

Factor each polynomial completely.

① $x^3 + 64$

② $64x^3 - 1$

③ $8x^3 - 27y^3$

④ $27x^3 + 125$

⑤ $-12x^2 + 45x + 162$

⑥ $15x^2 + 21x + 6$

⑦ $x^2 - 3x - 70$

⑧ $x^3 - 3x^2 - 5x + 15$

⑨ $3x^4 - 11x^2 - 20$

⑩ $27x^3 - 64y^3$

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Answers

① $x^3 + 64$

② $64x^3 - 1$

$(x + 4)(x^2 - 4x + 16)$

$(4x - 1)(16x^2 + 4x + 1)$

③ $8x^3 - 27y^3$

④ $27x^3 + 125$

$(2x - 3y)(4x^2 + 6xy + 9y^2)$

$(3x + 5)(9x^2 - 15x + 25)$

⑤ $-12x^2 + 45x + 162$

⑥ $15x^2 + 21x + 6$

$-3(x - 6)(4x + 9)$

$3(5x + 2)(x + 1)$

⑦ $x^2 - 3x - 70$

⑧ $x^3 - 3x^2 - 5x + 15$

$(x - 10)(x + 7)$

$(x - 3)(x^2 - 5)$

⑨ $3x^4 - 11x^2 - 20$

⑩ $27x^3 - 64y^3$

$(3x^2 + 4)(x^2 - 5)$

$(3x - 4y)(9x^2 + 12xy + 16y^2)$