

Name : _____

Factors: Algebraic Identities

MS2

Factorize each expression using algebraic identities.

1) $343a^3 - 64$

2) $320u^3v^3 + 5w^3$

3) $\frac{216}{r^3} - s^3$

5) $t^3 + 27u^3$

7) $24m^3n^4 - 3n$

9) $\frac{1}{s^3t^3} + 729$

10) $p^3q^5 + q^5$

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Factors: Algebraic Identities

Factorize each expression using algebraic identities.

1) $343a^3 - 64$

$(7a - 4)(49a^2 + 28a + 16)$

2) $320u^3v^3 + 5w^3$

$5(4uv + w)(16u^2v^2 - 4uvw + w^2)$

3) $\frac{216}{r^3} - s^3$

$\left(\frac{6}{r} - s\right)\left(\frac{36}{r^2} + \dots\right)$

5) $t^3 + 27u^3$

$(t + 3u)(t^2 - 3tu + 9u^2)$

7) $24m^3n^4 - 3n$

$3n(2mn - 1)$

9) $\frac{1}{s^3t^3} + 729$

$\left(\frac{1}{st} + 9\right)\left(\frac{1}{s^2t^2} - \frac{9}{st} + 81\right)$

10) $p^3q^5 + q^5$

$q^5(p + 1)(p^2 - p + 1)$

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