

Name : _____

Factors: Algebraic Identities

ES2

Factorize each expression using algebraic identities.

1) $m^3n^3 + 3m^2n^2 + 3mn + 1$

2) $s^3 - 6s^2 + 12s - 8$

3) $y^3 - 3y^2z + 3y^1z^2 + d^3$

5) $t^3 + 12t^2 + 48t + 64$ $108wx - 216$

7) $a^3 + \frac{3a^2}{b} + \frac{3a}{b^2} + \frac{1}{b^3}$ $-r^3$

9) $h^3 + 24h^2 + 192h + 512$

10) $\frac{1}{n^3} + \frac{15}{n^2} + \frac{75}{n} + 125$

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Factors: Algebraic Identities

Factorize each expression using algebraic identities.

1) $m^3n^3 + 3m^2n^2 + 3mn + 1$

$(mn + 1)^3$

2) $s^3 - 6s^2 + 12s - 8$

$(s - 2)^3$

3) $y^3 - 3y^2z + 3yz^2 + z^3$

$(y - z)^3$

5) $t^3 + 12t^2 + 48t + 64$ $108wx - 216$

$(t + 4)^3$

7) $a^3 + \frac{3a^2}{b} + \frac{3a}{b^2} + \frac{1}{b^3}$

$\left(a + \frac{1}{b}\right)^3$

9) $h^3 + 24h^2 + 192h + 512$

$(h + 8)^3$

10) $\frac{1}{n^3} + \frac{15}{n^2} + \frac{75}{n} + 125$

$\left(\frac{1}{n} + 5\right)^3$

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