

Name : _____

Expand: Algebraic Identities

Sheet 2

Expand each expression using algebraic identities.

1) $(3 - k)^3$

2) $(6 + 5m)(36 - 30m + 25m^2)$

3) $(7x - y)(49x^2 + 7xy + y^2)$

5) $\left(\frac{7}{r} + s\right)^3$

7) $\left(9 - \frac{p}{q}\right)\left(81 + \frac{9p}{q} + \frac{p^2}{q^2}\right)$

9) $(9a - b)^3$

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

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Expand: Algebraic Identities

Expand each expression using algebraic identities.

1) $(3 - k)^3$

$-k^3 + 9k^2 - 27k + 27$

2) $(6 + 5m)(36 - 30m + 25m^2)$

$125m^3 + 216$

3) $(7x - y)(49x^2 + 7xy + y^2)$

$343x^3 - y^3$

$+ 125$

5) $\left(\frac{7}{r} + s\right)^3$

$s^3 + \frac{21s^2}{r} + \frac{147s}{r^2} + \frac{49s^2}{r} + \frac{147s}{r^2} + \frac{49s^2}{r}$

$st + 9$

7) $\left(9 - \frac{p}{q}\right)\left(81 + \frac{9p}{q} + \frac{p^2}{q^2}\right)$

$-\frac{p^3}{q^3} + 729$

$u^3v^3 + 24u^2v^2w + 192uvw^2 + 512w^3$

9) $(9a - b)^3$

$729a^3 - b^3 - 243a^2b + 27ab^2$

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

$x^6 + 64z^3$

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