

Name : \_\_\_\_\_

## Expand: Algebraic Identities

Sheet 1

Expand each expression using algebraic identities.

1)  $(k + 1)^3$

2)  $(ab + c)^3$

3)  $(6g - h^2)^3$

5)  $(9 - n)^3$

7)  $\left(4 - \frac{p}{q}\right)^3$

9)  $(2w + 9)^3$

10)  $(m^2 - 2)^3$

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**Expand: Algebraic Identities**

Expand each expression using algebraic identities.

1)  $(k + 1)^3$

$k^3 + 3k^2 + 3k + 1$

2)  $(ab + c)^3$

$a^3b^3 + 3a^2b^2c + 3abc^2 + c^3$

3)  $(6g - h^2)^3$

$-h^6 + 18gh^4$

5)  $(9 - n)^3$

$-n^3 + 27n^2 -$

7)  $\left(4 - \frac{p}{q}\right)^3$

$-\frac{p^3}{q^3} + \frac{12p^2}{q^2}$

9)  $(2w + 9)^3$

$8w^3 + 108w^2 + 486w + 729$

10)  $(m^2 - 2)^3$

$m^6 - 6m^4 + 12m^2 - 8$

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 $\frac{12}{u}$  $15st^2 + 150st^2$  $9xy + 9xy^2$