

Name : _____

Expand: Algebraic Identities

Sheet 1

Expand each expression using algebraic identities.

1) $(2a + 3b)^3$

2) $(3g + 4)(9g^2 - 12g + 16)$

3) $\left(\frac{9}{q} + 5r\right)\left(\frac{81}{q^2} - \frac{45r}{q} + \dots\right)$

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

7) $(tu - 2)(t^2u^2 + 2tu + \dots)$

9) $\left(xy + \frac{2}{z}\right)^3$

10) $(7 - 3n^2)(49 + 21n^2 + 9n^4)$

PREVIEW

Gain complete access to the largest collection of worksheets in all subjects!

Members, please log in to download this worksheet.

Not a member? Please sign up to gain complete access.

www.mathworksheets4kids.com

$\left(\frac{5b}{c} + \frac{1}{c^2}\right)$

Expand: Algebraic Identities

Expand each expression using algebraic identities.

1) $(2a + 3b)^3$

$8a^3 + 27b^3 + 36a^2b + 54ab^2$

2) $(3g + 4)(9g^2 - 12g + 16)$

$27g^3 + 64$

3) $\left(\frac{9}{q} + 5r\right)\left(\frac{81}{q^2} - \frac{45r}{q}\right)$

$\frac{729}{q^3} + 125r^3$

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

$125x^3 + 75x^2 + 15x + 1$

7) $(tu - 2)(t^2u^2 + 2tu + 4)$

$t^3u^3 - 8$

9) $\left(xy + \frac{2}{z}\right)^3$

$x^3y^3 + \frac{6x^2y^2}{z} + \frac{12xy}{z^2} + \frac{8}{z^3}$

10) $(7 - 3n^2)(49 + 21n^2 + 9n^4)$

$-27n^6 + 343$

PREVIEW

Gain complete access to the largest
collection of worksheets in all subjects!

Members, please
log in to
download this
worksheet.

Not a member?
Please sign up to
gain complete
access.

www.mathworksheets4kids.com

$2 + 588uv - 343$

$\left(\frac{5b}{c} + \frac{1}{c^2}\right)$

$s^3 - 729t^3 - 27s^2t + 243st^2$