

Name : _____

Algebraic Identities

MS3

Expand each expression using algebraic identities.

1) $\left(\frac{m}{n} + \frac{1}{3}\right)^2$

2) $\left(\frac{4}{3} + k^4\right)^2$

3) $(6b - 0.2)^2$

5) $(0.1x + y)^2$

7) $\left(2 + \frac{9}{4}\right)^2$

9) $(7 - y^3z)^2$

10) $\left(4g - \frac{1}{g}\right)^2$

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Algebraic Identities

Expand each expression using algebraic identities.

1) $\left(\frac{m}{n} + \frac{1}{3}\right)^2$

$$\frac{m^2}{n^2} + \frac{2m}{3n} + \frac{1}{9}$$

2) $\left(\frac{4}{3} + k^4\right)^2$

$$k^8 + \frac{8k^4}{3} + \frac{16}{9}$$

3) $(6b - 0.2)^2$

$$36b^2 - 2.4b$$

5) $(0.1x + y)^2$

$$0.01x^2 + 0.2$$

7) $\left(2 + \frac{q}{4}\right)^2$

$$\frac{q^2}{16} + q + 4$$

9) $(7 - y^3z)^2$

$$y^6z^2 - 14y^3z + 49$$

10) $\left(4g - \frac{1}{g}\right)^2$

$$16g^2 + \frac{1}{g^2} - 8$$

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