

Name : _____

Algebraic Identity

MS3

Expand each expression using algebraic identity.

1) $\left(-2x + \frac{y}{2} - \frac{1}{z}\right)^2$

2) $\left(-\frac{k^4}{3} - k + 2.4\right)^2$

3) $\left(-\frac{p}{q} - q^2 - 3r\right)^2$

5) $(3.4 + 1.8r + 5s)^2$

7) $\left(\frac{g^2}{5} + 4h - \frac{3}{2}\right)^2$

9) $\left(0.2u - v + \frac{u}{v}\right)^2$

10) $(-0.4ab - 5c + 2)^2$

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Algebraic Identity

Expand each expression using algebraic identity.

1) $\left(-2x + \frac{y}{2} - \frac{1}{z}\right)^2$

$$4x^2 + \frac{y^2}{4} - 2xy + \frac{1}{z^2} + \frac{4x}{z} - \frac{y}{z}$$

2) $\left(-\frac{k^4}{3} - k + 2.4\right)^2$

$$\frac{k^8}{9} + \frac{2k^5}{3} - 1.6k^4 + k^2 - 4.8k + 5.76$$

3) $\left(-\frac{p}{q} - q^2 - 3r\right)^2$

$$q^4 + 6q^2r + 9r^2 + 2p$$

5) $(3.4 + 1.8r + 5s)^2$

$$3.24r^2 + 25s^2 + 18rs$$

7) $\left(\frac{g^2}{5} + 4h - \frac{3}{2}\right)^2$

$$\frac{g^4}{25} + \frac{8g^2h}{5} - \frac{3g^2}{5} +$$

9) $\left(0.2u - v + \frac{u}{v}\right)^2$

$$\frac{u^2}{v^2} + \frac{0.4u^2}{v} + 0.04u^2 + v^2 - 0.4uv - 2u$$

10) $(-0.4ab - 5c + 2)^2$

$$0.16a^2b^2 + 4abc - 1.6ab + 25c^2 - 20c + 4$$

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$$w + 42v - 24w + 9$$

$$+ 9d^2 + \frac{3d}{2} + \frac{1}{16}$$

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