

Name : _____

Algebraic Identity

MS1

Expand each expression using algebraic identity.

1) $\left(\frac{t}{3} - \frac{5}{u} + u^2\right)^2$

2) $(q + 3r - 1.5s)^2$

3) $(a^2 + 1.2a + 0.3)^2$

5) $\left(-\frac{u}{v} - \frac{v}{3} - 2\right)^2$

7) $\left(b + 3c + \frac{3}{d}\right)^2$

9) $(-2.1y - 4z + 5)^2$

10) $\left(mn - \frac{m}{4} - \frac{7}{3}\right)^2$

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Algebraic Identity

Expand each expression using algebraic identity.

1) $\left(\frac{t}{3} - \frac{5}{u} + u^2\right)^2$

$$u^4 + \frac{2tu^2}{3} + \frac{t^2}{9} - 10u + \frac{25}{u^2} - \frac{10t}{3u}$$

2) $(q + 3r - 1.5s)^2$

$$q^2 + 9r^2 + 2.25s^2 + 6qr - 9rs - 3qs$$

3) $(a^2 + 1.2a + 0.3)^2$

$$a^4 + 2.4a^3 + 2.04a^2$$

5) $\left(-\frac{u}{v} - \frac{v}{3} - 2\right)^2$

$$\frac{u^2}{v^2} + \frac{v^2}{9} + \frac{2u}{3} + \frac{4v}{3} + 4$$

7) $\left(b + 3c + \frac{3}{d}\right)^2$

$$b^2 + 9c^2 + 6bc + \frac{9}{d^2} + 6b + \frac{6c}{d} + \frac{9}{d}$$

9) $(-2.1y - 4z + 5)^2$

$$4.41y^2 + 16z^2 + 16.8yz - 21y - 40z + 25$$

10) $\left(mn - \frac{m}{4} - \frac{7}{3}\right)^2$

$$m^2n^2 - \frac{m^2n}{2} + \frac{m^2}{16} - \frac{14mn}{3} + \frac{7m}{6} + \frac{49}{9}$$

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$$\frac{4t}{s} - \frac{4}{t}$$

$$+ 8g + 16$$

2

$$.16x^4 + 3x^3 - 2.4x^2 + 9$$