

Name : _____

Algebraic Identities

ES1

Expand each expression using algebraic identities.

1) $(5d - 6)^2$

2) $(u^2v - 9)^2$

3) $(a - bc)^2$

4) $(1 + 2n)^2$

5) $(7 - k^4)^2$

6) $(4x + y)^2$

7) $(g^2 + h^2)^2$

8) $\left(\frac{3}{t} + t\right)^2$

9) $\left(s - \frac{1}{s}\right)^2$

10) $(qr + 8)^2$

Name : _____

Answer key

ES1

Algebraic Identities

Expand each expression using algebraic identities.

1) $(5d - 6)^2$

$$25d^2 - 60d + 36$$

2) $(u^2v - 9)^2$

$$u^4v^2 - 18u^2v + 81$$

3) $(a - bc)^2$

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

4) $(1 + 2n)^2$

$$4n^2 + 4n + 1$$

5) $(7 - k^4)^2$

$$k^8 - 14k^4 + 49$$

6) $(4x + y)^2$

$$16x^2 + 8xy + y^2$$

7) $(g^2 + h^2)^2$

$$g^4 + 2g^2h^2 + h^4$$

8) $\left(\frac{3}{t} + t\right)^2$

$$t^2 + \frac{9}{t^2} + 6$$

9) $\left(s - \frac{1}{s}\right)^2$

$$s^2 + \frac{1}{s^2} - 2$$

10) $(qr + 8)^2$

$$q^2r^2 + 16qr + 64$$