

Name : _____

Simplify: Multi-variable Expressions

ES2

Simplify each expression.

1) $x^2 + 2xy + y^2 + x^2 - 2xy + y^2$

2) $6c - 3d + 4 - 2c + 3d - 5$

3) $2a^2b^2 + 9ab + 3a^2b^2 - 6ab$

4) $2pq - 2rs + 2pr + pq - 2rs + 3pr$

5) $8pqr^2 + 7p$

$xy^2 + y^3 - 3x^2y$

7) $4u^2v + 11u$

$8b^2 + a^2 + c^2$

9) $x + 10y - z$

$6m^4 - 2n^2$

11) $2a^2 + 3ab - b^2 + 1 - a^2 + ab - 2$

12) $9p^2q^2r^2 + q^2r^2 - 3p^2q^2r^2$

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Name : _____

Answer key

ES2

Simplify: Multi-variable Expressions

Simplify each expression.

1) $x^2 + 2xy + y^2 + x^2 - 2xy + y^2$

$2x^2 + 2y^2$

2) $6c - 3d + 4 - 2c + 3d - 5$

$4c - 1$

3) $2a^2b^2 + 9ab + 3a^2b^2 - 6ab$

$5a^2b^2 + 3ab$

4) $2pq - 2rs + 2pr + pq - 2rs + 3pr$

$4rs$

5) $8pqr^2 + 7pqr^2$

$17pqr^2 + 6pqr^2$

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7) $4u^2v + 11u^2v$

$6u^2v + 4u^5$

$8b^2 + a^2 + c^2$

9) $x + 10y - z$

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$6m^4 - 2n^2$

$3x + 7y$

$4m^4 + n^2$

11) $2a^2 + 3ab - b^2 + 1 - a^2 + ab - 2$

$a^2 + 4ab - b^2 - 1$

12) $9p^2q^2r^2 + q^2r^2 - 3p^2q^2r^2$

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