

Name : _____

Simplifying Polynomial Expressions

ES1

Simplify each expression.

1) $3x^2 - 5x^3 - x(2x^2 + 4x)$

2) $a^2 - 2a + 5a^3 + 1 - 10a$

3) $17 - 3s^2 + 2s^2 - 5s^3 + 5$

4) $17p + 8p^3 - 4 - 5(p^3 - 2)$

5) $3(7r^{10} - 4r^9 - 5r^{10})$

6) $11c^5 - 9c^6 + 15c^5 - 13c^6 + 5c^6$

7) $5m^5 - 7m^3 + 3m^2 - 5m^5$

8) $5d^2 + 2d^2 - 8d^3 - (2d^2 + 5d)$

9) $15x^2 - 7x^4 + 25x^3 - 10x^4 + 35x^3 - 5x^4$

10) $2(n^2 + 2n^2 - 5n^3) + 8n^3 + 19$

11) $-5(b^6 + 10) - 8(14 + b^6)$

12) $10 + 2y^2 - (8y^3 - y^2 + 5y^3)$

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Answer key

Simplifying Polynomial Expressions

ES1

Simplify each expression.

1) $3x^2 - 5x^3 - x(2x^2 + 4x)$

$-x^2 - 7x^3$

2) $a^2 - 2a + 5a^3 + 1 - 10a$

$5a^3 + a^2 - 12a + 1$

3) $17 - 3s^2 + 2s^2 - 5s^3 + 5$

$-5s^3 - s^2 + 22$

4) $17p + 8p^3 - 4 - 5(p^3 - 2)$

$3p^3 + 17p + 6$

5) $3(7r^{10} - 4r^9 - 5r^{10})$

$6r^{10} - 12r^9$

6) $11c^5 - 9c^6 + 15c^5 - 13c^6 + 5c^6$

$26c^5 - 17c^6$

7) $5m^5 - 7m^3 + 3m^2 - 5m^5$

$3m^2 - 7m^3$

8) $5d^2 + 2d^2 - 8d^3 - (2d^2 + 5d)$

$-8d^3 + 5d^2 - 5d$

9) $15x^2 - 7x^4 + 25x^3 - 10x^4 + 35x^3 - 5x^4$

$15x^2 + 60x^3 - 22x^4$

10) $2(n^2 + 2n^2 - 5n^3) + 8n^3 + 19$

$19 - 2n^3 + 6n^2$

11) $-5(b^6 + 10) - 8(14 + b^6)$

$-13b^6 - 162$

12) $10 + 2y^2 - (8y^3 - y^2 + 5y^3)$

$10 + 3y^2 - 13y^3$