

Name:

Date: Score:

Simplifying Polynomials Worksheet

Simplify each expression

1 $(9x^4 + 6x + 7) + (2 - 10x)$

2 $(10a^4 + 9a + 2) + (5a - 8a^4)$

3 $(6y^3 - 3y^2 - 7y) - (8y^3 - y) - (5y^3 - 2y^2)$

4 $(3 - 6p^3 - p^4 + 7p^2) - (p^4 + 1) + (6p^4 - 9p^3 - 7)$

5 $(-2r - 5r^3 - 3r^4 + 10r^2) + (6r^2 + r) - (-7r - 7r^2 - 9r^4)$

6
$$\frac{3p^3q^2 - 3p^2q^3 + 2pq}{8pq}$$

7
$$\frac{4x^{10} - 5x^9 - 20x^4}{4x^2}$$

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Answers

1 $(9x^4 + 6x + 7) + (2 - 10x)$

$$9x^4 - 4x + 9$$

2 $(10a^4 + 9a + 2) + (5a - 8a^4)$

$$2a^4 + 14a + 2$$

3 $(6y^3 - 3y^2 - 7y) - (8y^3 - y) - (5y^3 - 2y^2)$

$$-7y^4 - y^2 - 6y$$

4 $(3 - 6p^3 - p^4 + 7p^2) - (p^4 + 1) + (6p^4 - 9p^3 - 7)$

$$4p^4 - 15p^3 + 7p^2 - 5$$

5 $(-2r - 5r^3 - 3r^4 + 10r^2) + (6r^2 + r) - (-7r - 7r^2 - 9r^4)$

$$6r^4 - 5r^3 + 23r^2 + 6r$$

6
$$\frac{3p^3q^2 - 3p^2q^3 + 2pq}{8pq}$$

$$\frac{3p^2q - 3pq^2 + 2}{8}$$

7
$$\frac{4x^{10} - 5x^9 - 20x^4}{4x^2}$$

$$\frac{x^2(4x^6 - 5x^5 - 20)}{4}$$