

1. For each of the following polynomials, rearrange it so that it is in standard form. Then classify by number of terms and degree.

a) $8x + 19 - 8x^3 - 39x^2$ Degree 3 Polynomial
 $-8x^3 - 39x^2 + 8x + 19$

b) $x^4 - 4x + 7x^2$ Degree 4 trinomial
 $x^4 + 7x^2 - 4x$

c) $12 - 7x^2$ Degree 2 binomial
 $-7x^2 + 12$

d) $-1 - x - 7x^3 - x^2 + x^5$ Degree 5 polynomial
 $x^5 - 7x^3 - x^2 - x - 1$

2. Perform each operation as indicated below. Remember to write answers in standard form.

a. $(7z^3 + 4z - 1) + (2z^2 - 6z + 2)$
 $7z^3 + 2z^2 + 4z - 6z - 1 + 2$
 $7z^3 + 2z^2 - 2z + 1$

b. $(5x^2 - 2x - 1) - (3x^2 - 5x + 7)$ subtract all this
 $5x^2 - 3x^2 - 2x + 5x - 1 - 7$
 $2x^2 + 3x - 8$

c. $(-s^2 - 3) - (2s^2 + 10s)$ subtract all this
 $-s^2 - 2s^2 - 10s - 3$
 $-3s^2 - 10s - 3$

d. $(3x^2 - x) + 5x^3 + (-4x^2 + x^2 - 8)$
 $5x^3 - 4x^2 + 3x^2 + x^2 - x - 8$
 $x^3 + 4x^2 - x - 8$

e. $(4x^2 - x - 7) + (2x^3 + 6x^2 - 11)$
 $2x^3 + 4x^2 + 6x^2 - x - 7 - 11$
 $2x^3 + 10x^2 - x - 18$

f. $(5x^3 \cdot 4x^2) + 3 - (10x^5 - 7x^3)$ product rule
 $20x^5 + 3 - (10x^5 - 7x^3)$ subtract all this
 $20x^5 - 10x^5 + 7x^3 + 3$
 $10x^5 + 7x^3 + 3$