

## Polynomials (Part 1): Adding and Subtracting

First & Last Name: \_\_\_\_\_ Class: \_\_\_\_\_

If you did not get full points on the *Polynomials* section of the “Pre-Review” test, attempt all of the (non-challenge) questions on this handout. Check your answers using the answer key. If you did not get a correct answer, use Khan Academy to review and master the topic.

*Honor Students: you are expected to master the challenge questions.*

### Section 1: Polynomials intro (KA link)

- Pick the expression that matches this description: A polynomial of the 7<sup>th</sup> degree with a leading coefficient of 5 and a constant term of 6.
  - $7x^6 - 2x^2 + 5$
  - $6x^5 + x^4 + 7$
  - $5x^7 + 3x^4 - 6$
  - $5x^7 - 8x^3 + 6$
- Which of the following polynomials are in standard form?
  - $3y + 6$
  - $3 - 4p + 6p^5$
  - $-5q^3 + 2q^2 - 5q + 7$
- What are the degrees of the following polynomials?
  - $3y + 6$
  - $3 - 4p + 6p^5$
  - $-5q^{11} + 2q^{12} - 5q + 7$
  - 5

### Section 2: Add polynomials (intro) (KA link)

- Add (your answer should be a polynomial in standard form).
  - $(-2h^4 + 3h^3 - h^2 - 6) + (2h^3 + 4h^2 - 6)$
  - $(3f^5 - 5f^3 - 11f) + (9f^3 - 4f - 2)$

### Section 3: Subtract polynomials (intro) (KA link)

- Subtract (your answer should be a polynomial in standard form).
  - $(-2h^4 + 3h^3 - h^2 - 6) - (2h^3 + 4h^2 - 6)$
  - $(3f^5 - 5f^3 - 11f) - (9f^3 - 4f - 2)$

### Section 4: Add and subtract polynomials (KA link)

- Subtract  $-8b^2 + 4b - 5$  from  $3b^2 - 4b - 9$  (your answer should be a polynomial in standard form).
- $T = -3g^2 + g - 4$  and  $N = -5g^2 + 4g + 7$ .
  - What is  $N + T$ ?
  - What is  $N - T$ ?
  - What is  $T - N$ ?
  - [Challenge] What is  $T - N - N + T$ ?

### Section 5: Add and subtract polynomials: two variables (intro) (KA link)

- Evaluate (your answer should be a polynomial in standard form).
  - $(-4p^4 + 9p^2q - 3pq^2) + (4p^4 - pq - 5q^2)$
  - $(3f^5 - 5df^3 - 11f^2) - (3f^5 - 4df - 2f^2)$

### Section 6: Add and subtract polynomials: two variables (KA link)

- $M = -3f^4 + 7f^2g^2 - 4g^4$  and  $N = 2f^4 - 13f^2g^2 + 3g^4$ .
  - What is  $M + M$ ?
  - What is  $M + N$ ?
  - What is  $M - N$ ?
  - What is  $N - M$ ?