

Polynomials (Part 2): Multiplying

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: Multiply monomials intro (KA link)

- Multiply (your answer should be a monomial in standard form).
 - $(8h^4)(2h^5)$
 - $(q^7)(-3q^2)$
 - $(-3x^4)(4x^3)$

Section 2: Multiply monomials (KA link)

- Find the values for c and d that would make the following equation true: $(cx^4)(7x^d) = 21x^8$.
- Express the area of a rectangle with length $5p^3q$ and width $3q^3$ as a monomial.
- Multiply $(a^5b^3)(-4a^2b^3)$.
- [Challenge] Multiply $(ap^wq^x)(bp^yq^z)$.

Section 3: Multiply monomials by polynomials: area model (KA link)

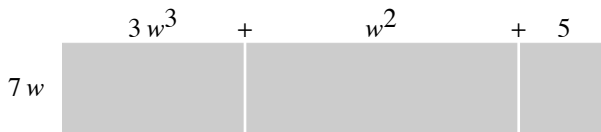
- Express the area of the entire rectangle (your answer should be a polynomial in standard form).



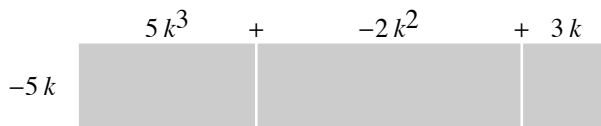
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- [Challenge] Express the area of the entire rectangle (your answer should be a polynomial in standard form).



Section 4: Multiply monomials by polynomials (KA link)

1. Expand (your answer should be a polynomial in standard form).
 - a. $q(-q^4 + 2q^3 - q)$
 - b. $-m^3(m^2 - 5m + 7)$
 - c. $-3h^2(h^4 - 7h)$

Section 5: Multiply monomials by polynomials challenge (KA link)

1. Expand (your answer should be a polynomial in standard form).
 - a. $5(p^2 + 3pq + q^2)$
 - b. $-4g^5(5h + 3gh - 7g^2)$
2. Find the values for a and b that would make the equality true.
 - a. $-3(3m^3 + 5m + b) = am^3 - 15m - 45$
 - b. $5a\left(\frac{1}{2}x^2y + bxy - 3y^2\right) = 10x^2y - 10xy - 60y^2$