

# Polynomials (Part 3): Multiplying, continued

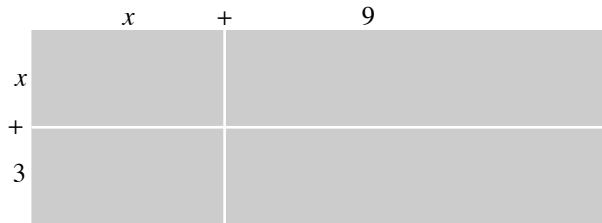
First & Last Name: \_\_\_\_\_ Class: \_\_\_\_\_

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.

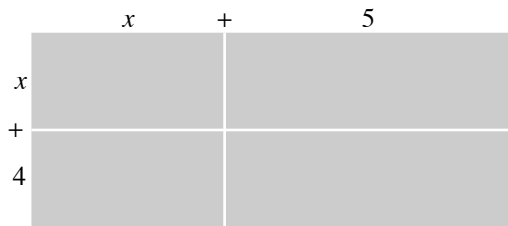
*Honor Students: you are expected to master the challenge questions.*

## Section 1: Multiply binomials: area model (KA link)

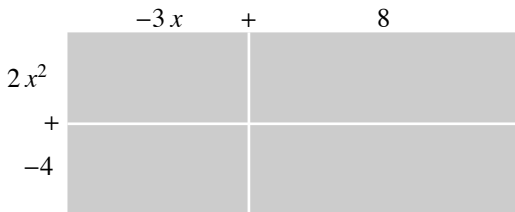
1. Express the area of the entire rectangle (your answer should be a polynomial in standard form).



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



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



## Section 2: Warmup: multiplying binomials intro (KA link)

1. Expand and simplify (your answer should be a polynomial in standard form).
- $(x + 3)(x + 7)$
  - $(x - 5)(x + 4)$
  - $(x + 6)(x - 5)$
  - $(x - 3)(x - 1)$

## Section 3: Multiply binomials intro (KA link)

1. Expand and simplify (your answer should be a polynomial in standard form).
- $(x + 1)(x + 6)$
  - $(x + 3)(x - 7)$
  - $(x - 4)(x + 9)$
  - $(x - 11)(x + 1)$

#### Section 4: Multiply binomials (KA link)

1. Expand and simplify (your answer should be a polynomial in standard form).
  - a.  $(5h + 1)(3h - 6)$
  - b.  $(9x - 3)(-7x + 8)$
  - c.  $(-3y - 6)(9y + 7)$
  - d. [Challenge]  $\left(\frac{1}{3}r - \frac{1}{2}\right)\left(\frac{2}{5}r + \frac{1}{4}\right)$  (No decimals! Use fractions only)

#### Section 5: Multiply binomials by polynomials (KA link)

1. Expand and simplify (your answer should be a polynomial in standard form).
  - a.  $(5h + 1)(3h^2 - 2h + 6)$
  - b.  $(5b^2 - 3)(-3b^2 + 1)$
  - c.  $\left(\frac{1}{2}y^3 + 5y^2 - 3y + \frac{1}{3}\right)(-y + 6)$
  - d. [Challenge]  $\left(\frac{1}{3}r^3 - \frac{1}{4}r^2 - \frac{1}{5}r - \frac{1}{6}\right)\left(\frac{1}{7}r - \frac{1}{8}\right)$  (No decimals! Use fractions only)