

NAME: _____

DATE: _____

Polynomial Addition

1. In your own words, explain how you add two polynomials.

2. Using alge-tiles, an online version of alge-tiles, or any other representation you are comfortable with:
 - a. Create the representation for each of the expressions
 - b. Simplify the expressions (add the polynomials)
 - c. State the answer
 - i. $3x + 4x$

 - ii. $2x + 3y$

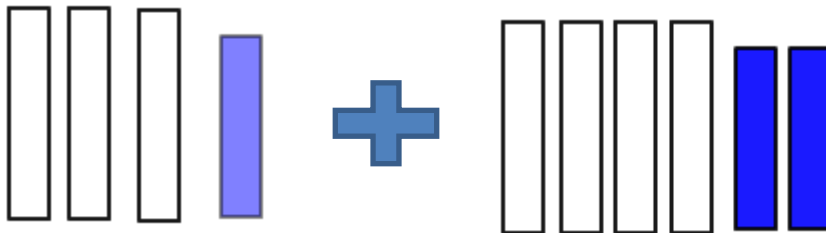
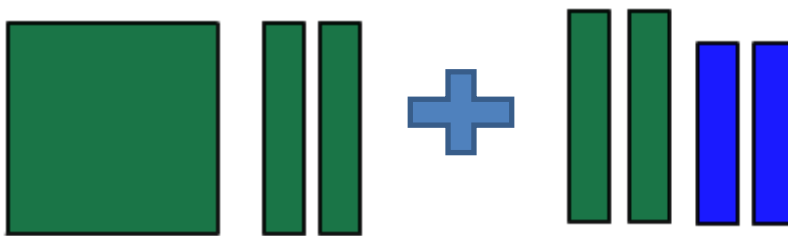
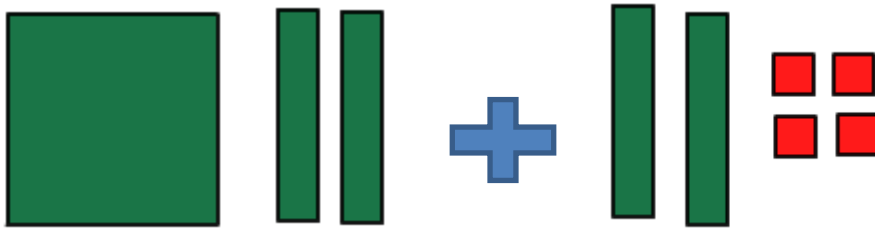
 - iii. $(2x + 3) + (x - 2)$

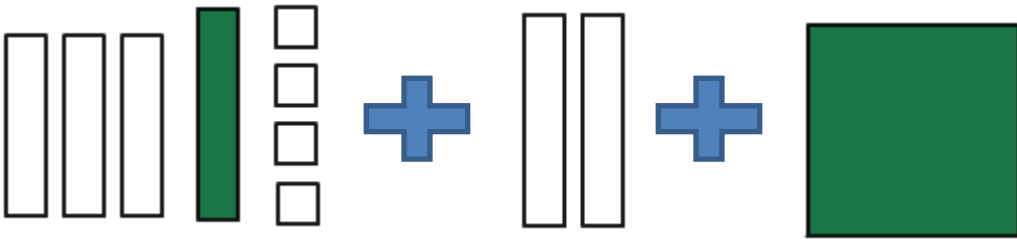
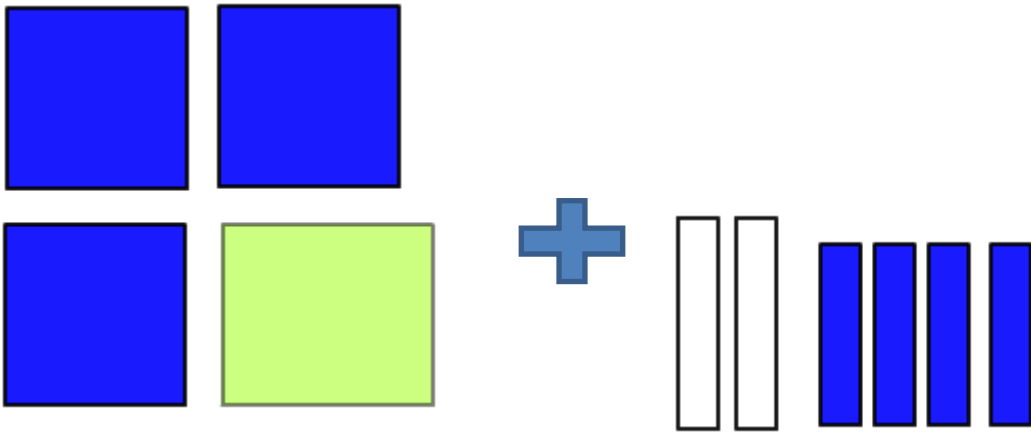
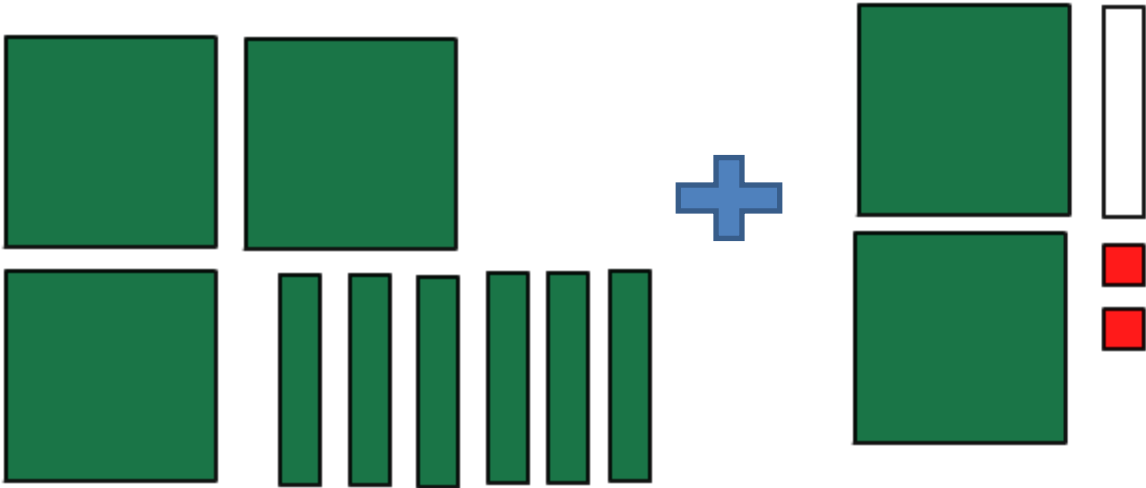
 - iv. $(x^2 - 4x - 1) + (x^2 - x - 1)$

 - v. $(xy + 2y^2) + (-xy + 2y^2)$

 - vi. $(x^2 + x + 3) + (x + 4) + (-2x^2 - x - 6)$

3. For the following, write down the addition expression, as well as the simplified expression.





4. Add the following polynomial expressions.

a. $3x + 4x$

e. $(-4m - 8) + (-4m - 8)$

b. $4y + 3x + 3xy + 2y + 2x$

f. $(-4m - 8) + (4m + 8)$

c. $2x^2 + (-4x^2 - 2x)$

g. $(2x^4 + 3x^2 - 8) + (5x^3 - 9x + 5)$

d. $(5p^3 + 4p^2) + (4p^3 + 5p^2)$

5. Write your own addition of the following. Be sure to include a simplified answer! Challenge your classmates to simplify your polynomials.

a. A monomial plus a monomial

b. A trinomial plus a binomial

c. A polynomial with degree 4 plus a polynomial with degree 3.

6. Work backward (think Jeopardy!). Write an expression of addition of polynomials for each of the following simplified answers.

a. $-x$

d. $x^2 + 2x - 7$

b. $5xy$

e. $-3x^4 - 8x - y - 3$

c. $-y^2 + 3$

f. 0