

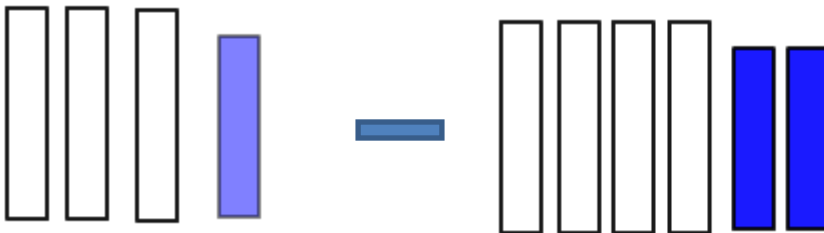
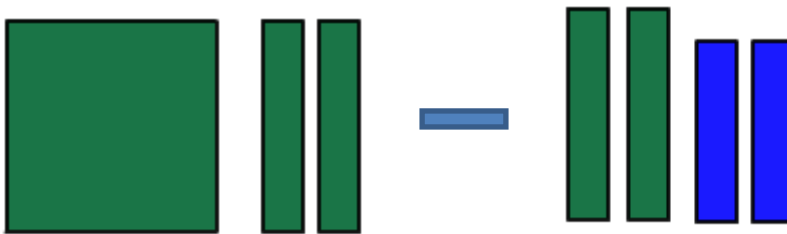
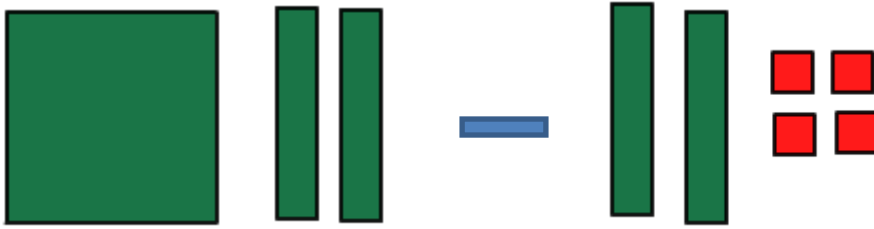
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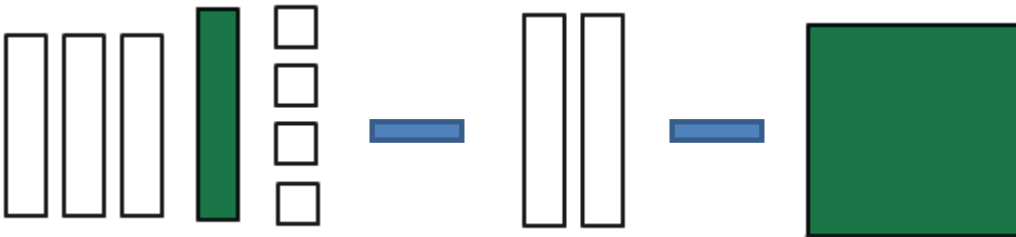
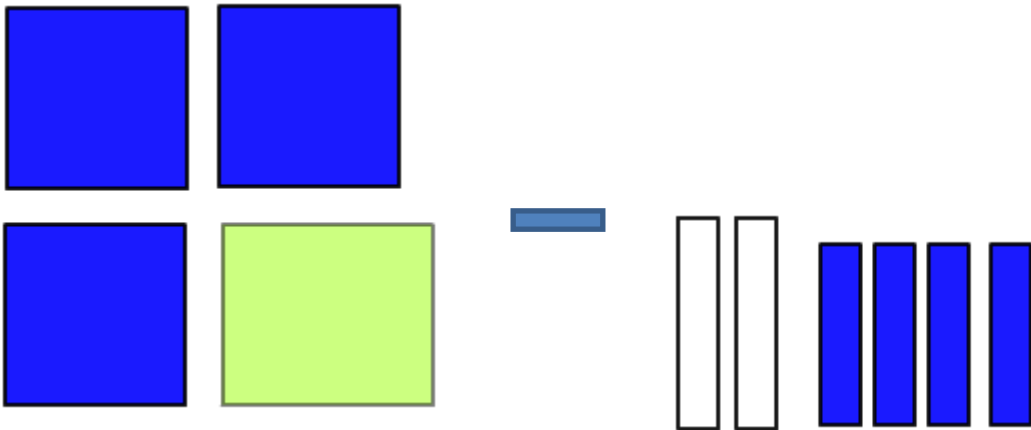
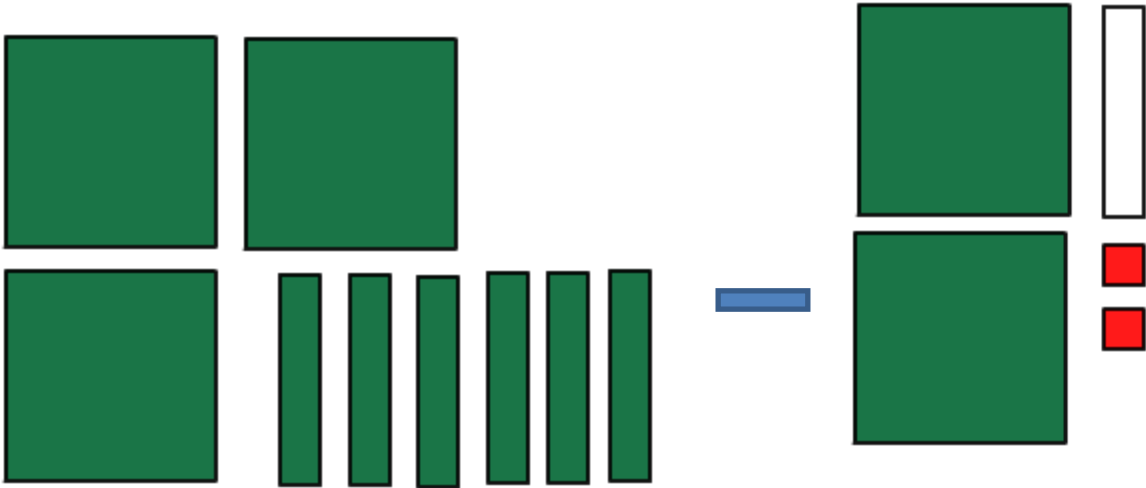
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## Subtracting Polynomials

1. In your own words, how do we subtract polynomials?
2. What have you learned previously that can help you with this?
3. 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. Create the representation for adding the opposite
  - c. Simplify the expression (“subtract” the polynomials)
  - d. 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.  $(x^2 + x + 3) + (x + 4) - (-2x^2 - x - 6)$

4. For the following, write down the subtraction expression, as well as the simplified expression. If you need to, represent adding the opposite.





5. Subtract 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.  $(5p^3 + 4p^2) - (4p^3 + 5p^2)$

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

a. A monomial minus a monomial

b. A trinomial minus a binomial

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

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

a.  $-x$

b.  $5xy$

c.  $-y^2 + 3$

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

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

