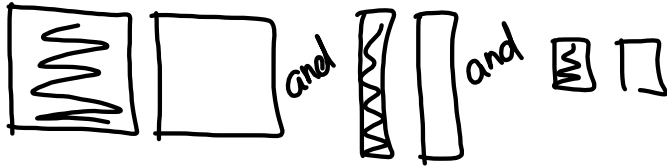


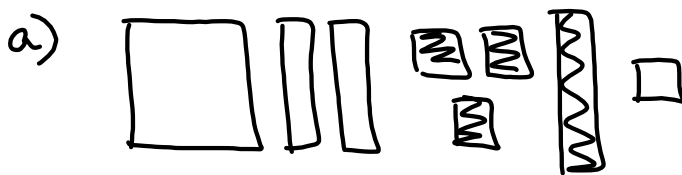
Section 5.2 - Like and Unlike Terms

These are zero pairs:

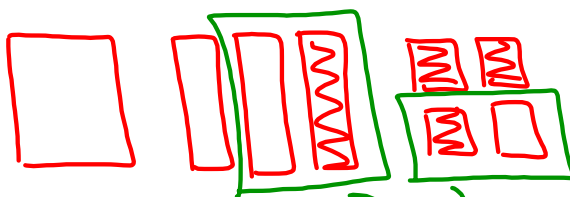


*We can use zero pairs to simplify algebraic expressions.

Example 1): Simplify the tile model and write the polynomial that the remaining tiles represent.



group like tiles:

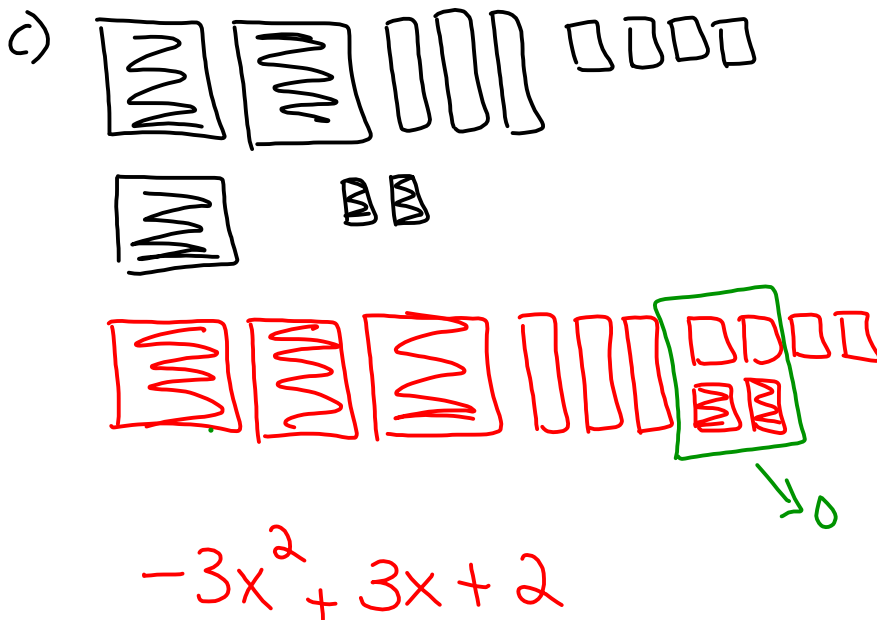
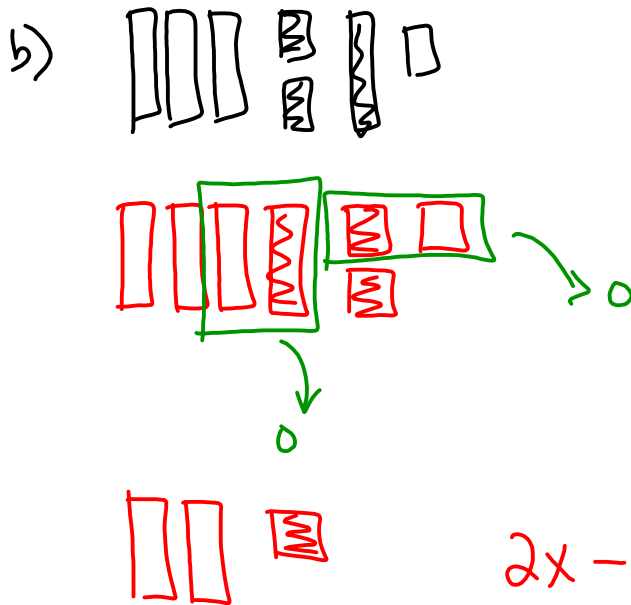


remove zero pairs:



Write the remaining tiles as a polynomial:

$$x^2 + x - 2$$



* terms that can be represented by matching tiles are called LIKE terms.

Like terms: x^2 and $-2x^2$, $4b$ and b ,
 6 and -2 .

Unlike terms: $3b$ and b^2 , $2x$ and -5
 $3d^2$ and 7 .

* we can simplify a polynomial by adding the coefficients of like terms.

To simplify $-5x + 2x$, add the integers

$$-5 + 2 = -3$$

$$\text{So } -5x + 2x = -3x.$$

Example 2): Simplify each polynomial:

$$\text{a) } 3a + 6 + a + 4$$

$$= \textcircled{3a} + \textcircled{a} + \textcircled{6} + \textcircled{4} \quad \text{group like terms}$$

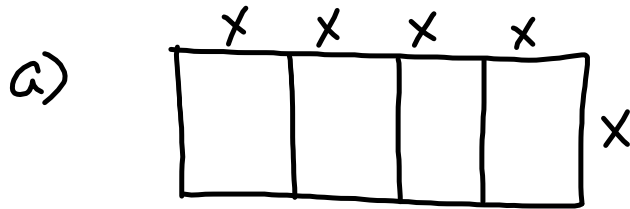
$$= 4a + 10 \quad \text{add coefficients}$$

$$\text{b) } (-x^2 + 4x - 5) + (3x^2 - 4x + 1)$$

$$= -x^2 + 3x^2 + 4x - 4x - 5 + 1$$

$$= 2x^2 - 4$$

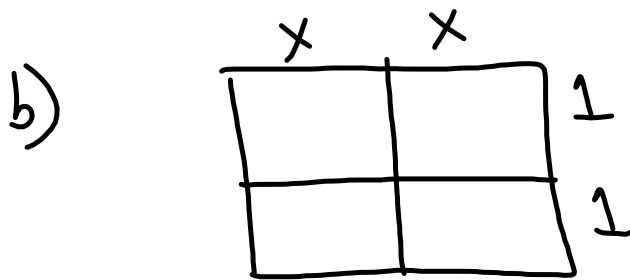
Example 3: write a polynomial to represent the perimeter of each rectangle



$P =$ distance around figure

$$P = x + x + x + x + x + x + x + x + x + x$$

$$= 10x$$



$$P = x + x + 1 + 1 + x + x + 1 + 1$$

$$= x + x + x + x + 1 + 1 + 1 + 1$$

$$= 4x + 4$$

Complete: pg. 222 # 6-15, 19