

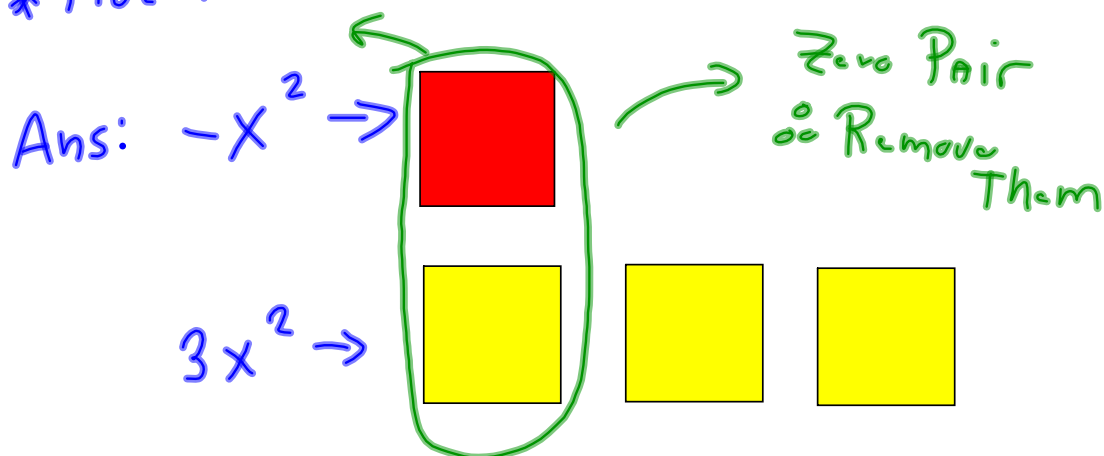
Section 5.2: Like Terms

Terms can be represented by algebra tiles with the same size and shape are called like terms.

(ex) $-x^2$ and $3x^2$ are like terms.

Why? They both have an x^2 in their term
 ∞ they both use the large square tile.

* Model $-x^2$ and $3x^2$ using tiles:



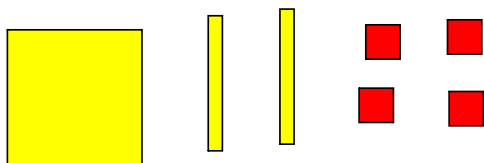
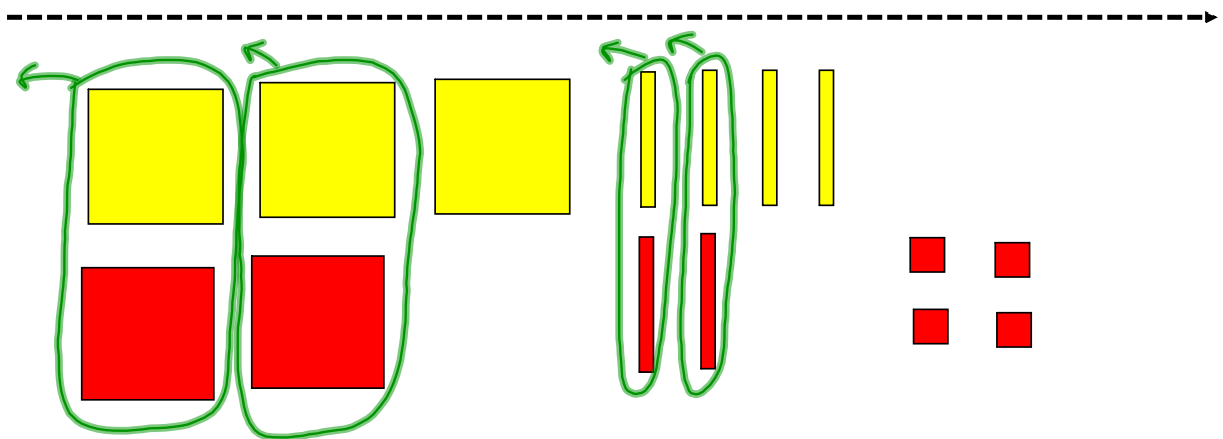
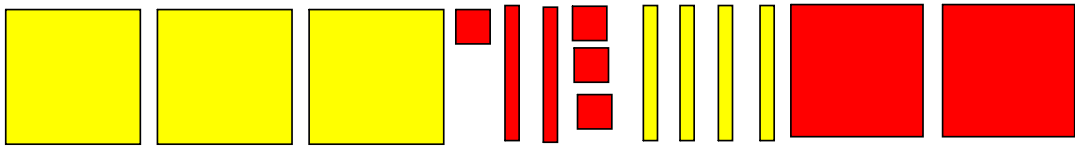
Question: what happens if you combine both terms?

Ans: $2x^2$ remains.

Example #1: Use algebra tiles to simplify the polynomial:

$$3n^2 - 1 - 2n - 3 + 4n - 2n^2$$

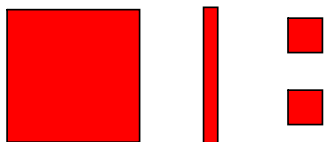
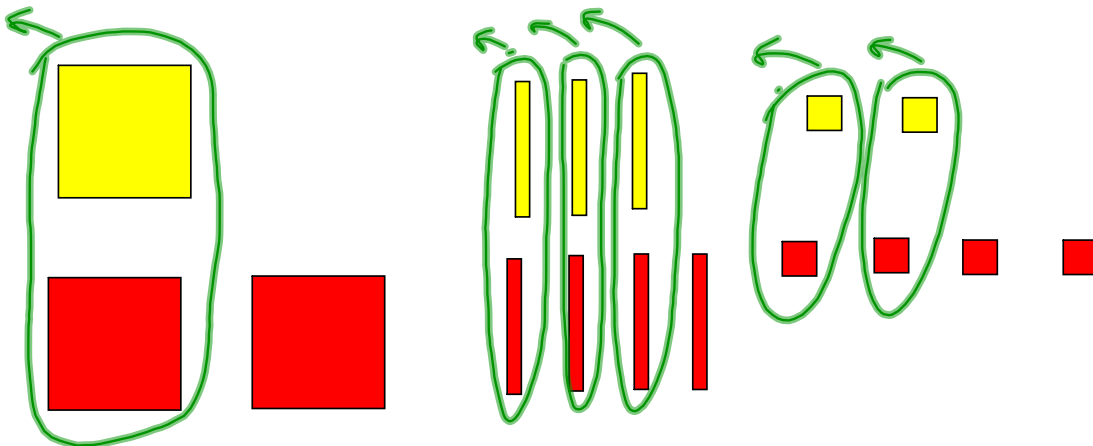
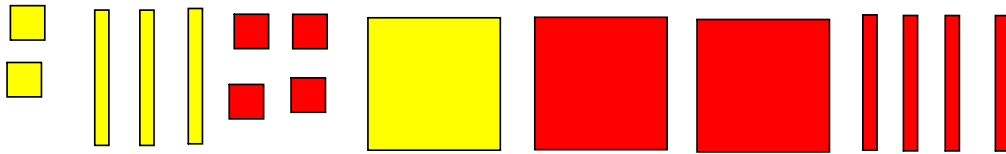
Ans)



Ans) $n^2 + 2n - 4$

Example # 2: Simplify the following polynomial using tiles:

$$2 + 3y - 4 + y^2 - 2y^2 - 4y$$



Ans) $-y^2 - y - 2$

Example #3: Simplify the following polynomial
without using tiles:

$$14x^2 - 11 + 30x + 3 + 15x - 25x^2$$

$$\text{Ans) } (\underline{14x^2} - \underline{25x^2}) + (\underline{30x} + \underline{15x}) + (-11 + 3)$$

$$= -11x^2 + 45x - 8$$

Example #4: Simplify without using tiles:

$$\underline{4xy} - \underline{y^2} - 3x^2 - x + \underline{2xy} - \underline{3y^2}$$

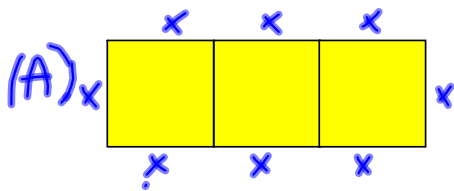
$$\begin{aligned} \text{Ans) } & (4xy + 2xy) + (-y^2 - 3y^2) - 3x^2 - x \\ & = 6xy - 4y^2 - 3x^2 - x \end{aligned}$$

Example #5: Simplify without using tiles:

$$\underline{3x^2} - \underline{4xy} + 9 - 6y^2 - 11 + 8y^2 + \underline{4xy} - \underline{x^2}$$

$$\begin{aligned} & = (3x^2 - x^2) + (-4xy + 4xy) + (9 - 11) + (-6y^2 + 8y^2) \\ & = 2x^2 + 0xy - 2 + 2y^2 \\ & = 2x^2 - 2 + 2y^2 \end{aligned}$$

Example #6: Write a polynomial to represent the perimeter of each rectangle:

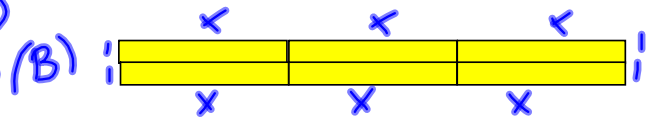


$$P = 2l + 2w$$

$$P = 2(3x) + 2(x)$$

$$P = 6x + 2x$$

$$P = 8x$$



$$P = 2l + 2w$$

$$P = 2(3x) + 2(2)$$

$$P = 6x + 4$$

Homework:

p 222-223

#8, 9, 11 a, c, e, 19
Barce, 19