

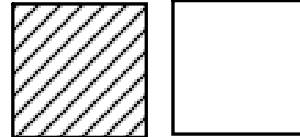
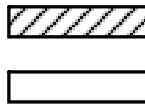
Sec 5.2: Like Terms and Unlike Terms

Recall:

When you worked with integers, a +1 tile and a -1 tile formed a **zero pair**.

$$\boxed{\text{shaded}} \boxed{\text{white}} = 0$$

This same idea applies to x and x^2 tiles.



Note:

Any two **opposite colored tiles** of the **same size** has a sum of **zero**. We can combine these tiles because they are **like terms**.

Like Terms →

- Examples of like terms:
- a) $4x$ and $-2x$
 - b) $+1$ and $+8$
 - c) x^2 and $-3x^2$

Like terms can be combined or simplified.

Example 1: Sketch the tiles and cancel the zero pairs where possible, to simplify the polynomials listed above.

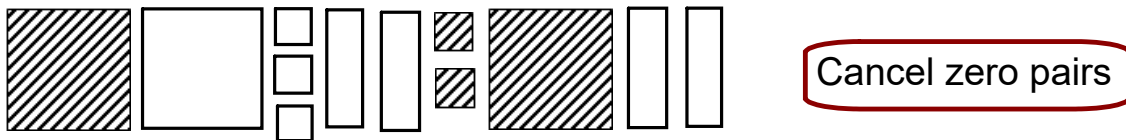
Unlike Terms →

Examples of like terms: a) $x + y$

b) $2x + 3$

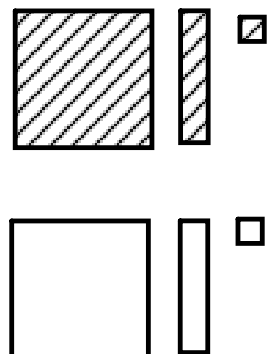
c) $4x + 2x^2$

Example 2: Write a simplified expression for the algebra tiles below.



Example 3: Sketch the simplified expression using algebra tiles for:

$$4n^2 - 1 - 3n - 3 + 5n - 2n^2$$



Can you see how to simplify like terms without using tiles?

Example 4: Simplify each polynomial **without using algebra tiles**.

(a) $3x + 5x$

(b) $-13a - 10a$

(c) $16n + n - 17n$

(d) $-j + 7k - 3j$

(e) $8a - 2b - 6a - 3b$

(f) $-q + 7q + 11n + 11p - 8q$

Example 5: Wayne was asked to write an expression equivalent to $2x - 7 - 4x + 8$. Below are his workings.

His solution was:

$$\begin{aligned} & 2x - 7 - 4x + 8 \\ & = 2x - 4x - 7 + 8 \\ & = 2x - 1 \end{aligned}$$

a) What errors did he make? Show the correct simplification.

Work Book Questions

p.222 - 223 #6, 7, 8bce, 10, 11abc,
12ace, 13ace, 14ace, 18a, 19abcd

Extra Practice Questions

p.222 - 223 #4, 5, 8adf, 9, 11def,
12bdf, 13bdf, 14bdf, 15, 16, 17