Symbols of inclusion

Symbols of inclusion group terms together. You're most familiar with parentheses as a symbol of inclusion, but there are others.

Symbols of Inclusion:

Parentheses	( )
Brackets	[ ]
Braces	{ }
Absolute Value	| |
Division	$\frac{a}{b+c}$

The division sign grouped $b+c$ and that operation must now be performed first.

Remember to follow the order of operations PEMDAS to simplify expressions:

Parentheses	(all symbols of inclusion)
Exponents	(powers and roots)
Multiplication/Division	(from left to right or divide first)
Addition/Subtraction	(from left to right or subtract first)

Example

Simplify the expression.

$$[15 - (2 + 4)] \cdot 5 - 3$$

Start by simplifying the innermost parentheses.

$$[15 - (6)] \cdot 5 - 3$$

$$[15 - 6] \cdot 5 - 3$$

Now finish simplifying symbols of inclusion (the brackets).

$$[9] \cdot 5 - 3$$

$$9 \cdot 5 - 3$$

There are no exponents so move on to multiplication/division.

$$45 - 3$$

Last, simplify addition/subtraction.

$$42$$

Let's try another example using symbols of inclusion.

Example

Simplify the expression.

$$3[(4-1)+7]-(8+2)$$

Start by simplifying the innermost parentheses.

$$3[(3)+7]-(8+2)$$

$$3[3+7]-(8+2)$$

Now finish simplifying symbols of inclusion.

$$3[10]-(10)$$

There are no exponents so move on to multiplication/division.

$$30-10$$

Last, simplify addition/subtraction.

$$20$$
