drag and drop Sort the keywords.

Word	Description
	Total given by adding numbers
	Total given by subtracting numbers
	Total given by multiplying numbers
	Total given by dividing numbers

product   difference   quotient   sum

Monomial: an algebraic expression with only one term

What it is

$2abc$ y^2

$4x + x$ 1

ab x

What it isn't

$2x + 5$ $x^2 + x$

$x + y$

Note: 1x = x

Polynomials: an algebraic expression with more than one term

What it is

$2x + 5$

$x^2 + x$ $x + y$

$a + 2b + 5c$

What it isn't

$2x^2$ ab

Adding

Group and add "like" terms. Your answer may have more than one number.

$(2x + 3) + (x + 5)$

$= 3x + 8$

$2x^2 + 3 + x + 5$

$= 2x^2 + x + 8$

$2xy + 3y + x + 5$

Note: Brackets don't really matter, and can be removed.

Subtracting

Group and subtract like terms.

$(2x - 3) + (x - 5)$

$= 3x - 8$

$(2x - 3) - (x - 5)$

$= 2x - 3 - x + 5$

$= x + 2$

$(2x - 3) - (x + 5)$
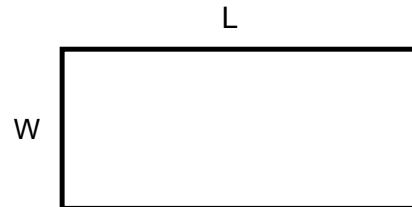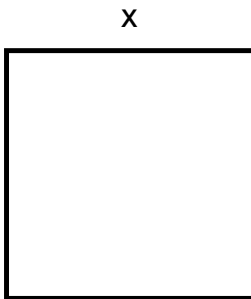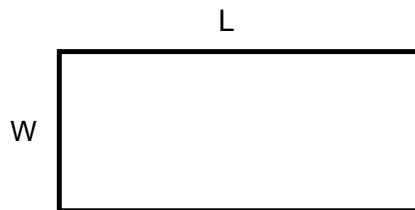
$= 2x - 3 - x - 5$

$= x - 8$

Brackets DO matter.

Remember: 1. Sharing is caring

2. Two minuses give a plus (- - = +)

Adding, Subtracting and Perimeters

x

$\square$

L

W $\square$

L + 2

W + 2 $\square$

Finding the Value

L

W

L = 6, W = 2

L + 2

W + 2

$L^2 + 2W = 6^2 + 2(2) = 36 + 4 = 40$

drag and drop Rearrange the order of operations

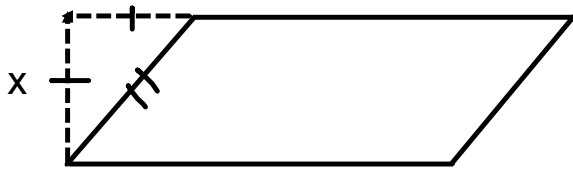|	
	Addition
	Brackets
	Division
	Exponents
	Multiplication
	Subtraction
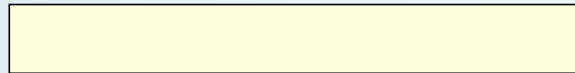
Recap: Find the Perimeter
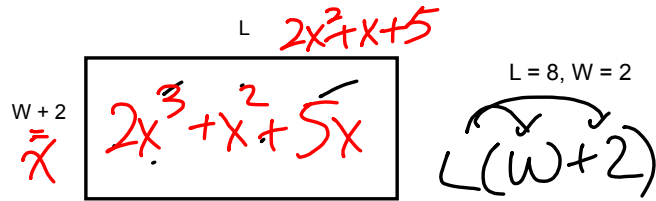
$3x$ $2L + 2W$

5x - 1

$$2(3x) +$$
$$2(5x - 1)$$
$$6x + 10x - 2$$
$$16x - 2$$

x

4x + 3

Multiplying

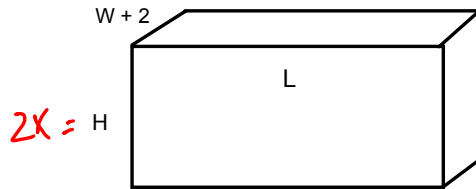Multiply with each number in the brackets. Sharing is caring.

L $2x^2+x+5$

$W+2$
$=x$

$2x^3+x^2+5x$

$L = 8, W = 2$

$L(W+2)$

$LW+2L$

$8(2)+2(8)$

$=32$

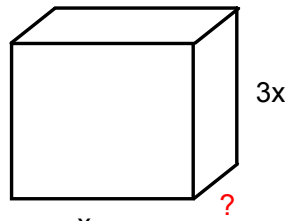Area: $L = 2x^2 + x + 5, W + 2 = x$

$(2x^2+x^1+5)x^1$

$2x^3+x^2+5x$

W + 2

L

$2X = $ H

Volume: $L = 2x^2 + x + 5, W + 2 = x, H = 2x$

$L \times H \times (W+2) = (2x^2+x+5)(x)(2x)$

$(2x^3+x^2+5x)2x$

$= 4x^4+2x^3+10x^2$

6.b) p.53

3x

x

?

Volume of prism = $6x^2$ mm^3

$(3x)(x)(?)=6x^2$

$\dfrac{3x^2(?)}{3x^2}=\dfrac{6x^2}{3x^2}$

$?=2$

Algebraically:

$-2(x^2 + 3x - 5)$

$-2x^2 - 6x + 10$

$-2(x^2 + 3x - 5) - 3(x - 4)$

$-2x^2 - 6x + 10 - 3x + 12$
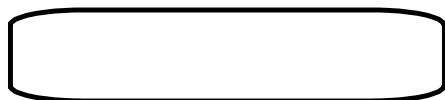
$-2x^2 - 9x + 22$

Dividing

Divide each number in the brackets/in the top part of the fraction. Sharing is caring.

$\dfrac{-3x^2 + 6x - 3}{3}$ $\require{cancel}\cancel{\dfrac{3}{3}}^{\div 3} \; -1$ $-\left(\dfrac{3x^2 + 6x - 3}{3} \right)$

$-x^2 + 2x - 1$ $-x^2 - 2x + 1$

$\dfrac{-3x^3 + 6x^2 - 3x}{3x}$

$\dfrac{\cancel{x \cdot x \cdot x}}{\cancel{x}}$

$-x^2 + 2x - 1$

Before you leave...

Simplify the following expressions:

1. 3c(3c + 2) - 5c(2c - 1)

2. $\underline{(36h^3 - 24h^2 + 12h)}$

       -8h

3. Find a simplified expression for the area of the polygon:

x + 1

2x