

Inserting Parentheses for Order of Operations MathPrint view

Objectives:

- Identify calculations where additional parentheses are needed
- Insert parentheses same as classic view to achieve correct calculations

Identify calculations where additional parentheses are needed

- Parentheses (), Brackets [], and Braces { }** are grouping symbols in math problems.
CAUTION: The GC keys for brackets [] or braces { } are matrices and lists, NOT grouping symbols!



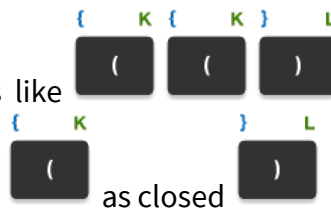
If the math has () or [] or { }, always use () and [] , repeating and nesting if necessary.

- Fraction bar** may create a group in the numerator and/or a group in the denominator, but it's also an operator meaning "divide". Additional parentheses are needed when using the classic view.

Example 1: $\frac{2-3}{7-4}$ means $(2-3) \div (7-4)$. Add two sets of parentheses to subtract before divide.

Example 2: $2-3 \div 7-4$ means $2-\frac{3}{7}-4$. The order of operations says divide before subtract.

Insert parentheses in classic view to achieve correct calculations



CAUTION: Imbalanced parentheses like (() can cause some strange errors!

Check for the same number of open (as closed) parentheses.

Example 3: Evaluate $\{3-[4+7(1-5)]\}$

Press (3 - (4 + 7 (1 - 5)))

entry solve

enter

to see this screen:

Example 4: $\frac{25-19}{14-17}$ becomes $\frac{(25-19)}{(14-17)} = (25-19) \div (14-17)$

Press (2 5 - 1 9) ÷ (1 4 - 1 7)

} L entry solve

) enter

See this screen:

Note: MathPrint calculators can also input fraction formatting! There's another worksheet for that.

Try it!

Calculate.

$$1) \left\{ 3 - \left[4 + 7(1-5)^2 \right] \right\}$$

$$2) \frac{9-12}{4-6}$$

$$3) \frac{3^2-2^2}{3 \cdot 2+2^2}$$

$$4) \frac{(-2)^2+1}{-2-3}$$

$$5) \frac{-2^2+1}{-2-3}$$

$$6) (-2)^2 + \frac{1}{-2-3}$$

$$7) -2^2 + \frac{1}{-2-3}$$

$$8) \frac{(-2)^2+1}{-2} - 3$$

$$9) \frac{-2^2+1}{-2} - 3$$

$$10) \frac{(-2+1)^2}{-2-3}$$

Answers:

$$1) 3 - (4 + 7(-4)^2) = 3 - (4 + 7 \cdot 16) = 3 - (4 + 112) = 3 - 116 = -113$$

NORMAL FLOAT AUTO REAL RADIAN MP
3-(4+7(1-5)^2)
-113

$$2) \frac{-3}{-2} = 1.5$$

NORMAL FLOAT AUTO REAL RADIAN MP
(9-12)/(4-6)
1.5

$$3) \frac{9-4}{6+4} = .5$$

NORMAL FLOAT AUTO REAL RADIAN MP
(3^2-2^2)/(3*2+2^2)
0.5

$$4) \frac{4+1}{-5} = -1$$

NORMAL FLOAT AUTO REAL RADIAN MP
((-2)^2+1)/(-2-3)
-1

$$5) \frac{-4+1}{-5} = 0.6$$

NORMAL FLOAT AUTO REAL RADIAN MP
(-2^2+1)/(-2-3)
0.6

$$6) 4 + \frac{1}{-5} = 3.8$$

NORMAL FLOAT AUTO REAL RADIAN MP
(-2)^2+1/(-2-3)
3.8

$$7) -4 + \frac{1}{-5} = -4.2$$

NORMAL FLOAT AUTO REAL RADIAN MP
-2^2+1/(-2-3)
-4.2

$$8) \frac{4+1}{-2} - 3 = \frac{5}{-2} - 3 = -5.5$$

NORMAL FLOAT AUTO REAL RADIAN MP
((-2)^2+1)/-2-3
-5.5

$$9) \frac{-4+1}{-2} - 3 = \frac{-3}{-2} - 3 = -1.5$$

NORMAL FLOAT AUTO REAL RADIAN MP
(-2^2+1)/-2-3
-1.5

$$10) \frac{(-1)^2}{-5} = \frac{1}{-5} = -0.2$$

NORMAL FLOAT AUTO REAL RADIAN MP
(-2+1)^2/(-2-3)
-0.2