

September 13, 2017

$$\boxed{\frac{-\square\ominus}{\square} = \frac{\otimes(\ominus-\$)}{\square}} \text{, for } \ominus$$

LCR:  $\square$

$$-\square\square\ominus = \otimes(\ominus-\$) \text{ Dist } \frac{\square}{\square}$$

$$-\square\square\ominus = \otimes\ominus - \otimes\$ \text{ Dist}$$

$$-\square\square\ominus - \otimes\ominus = -\otimes\$ \text{ A.S.}$$

$$\frac{\ominus(-\square\square\otimes)}{(-\square\square-\otimes)} = \frac{-\otimes\$}{(-\square\square-\otimes)} \text{ Dist}$$

$$\ominus = \frac{-\otimes\$}{(-\square\square-\otimes)} \text{ M.I.}$$

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CORE 1.1

Multiplication of Reals

Same Signs

$$(+)\cdot(+)=+$$

$$(-)\cdot(-)=+$$

Opposite Signs

$$\left. \begin{matrix} (+)\cdot(-) \\ (-)\cdot(+) \end{matrix} \right\} -$$

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Division of Reals except division by zero!

$$\frac{(+)}{(+)} = +$$

$$\frac{(-)}{(-)} = +$$

$$\left. \begin{matrix} \frac{(+)}{(-)} = - \\ \frac{(-)}{(+)} = - \end{matrix} \right\} \text{ FACT}$$

$$-\frac{a}{b} = \frac{-a}{b} = \frac{a}{-b}$$

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Using Exponents

$$a^m = \underbrace{a \cdot a \cdot a \dots a}_m$$

Base  $\uparrow$   $m$  factors of  $a$

$$5^3 = 5 \cdot 5 \cdot 5 = 25 \cdot 5 = 125$$

An issue

$$(-4)^2 = (-4) \cdot (-4) = 16$$

Base  $\uparrow$  even!

$$-4^2 = (-1) \cdot 4^2 = (-1) \cdot 4 \cdot 4 = (-4) \cdot 4 = -16$$

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Do CORE 1.1

#1 - #36 m3

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CORE 1.2

Order of Operations

① Clear Grouping Symbols

$( ), [ ], \{ \}, |a|, \frac{a}{b}, \sqrt{a}$

$\frac{6}{2} = 3 \quad \sqrt{25} = 5$

② Evaluate Exponents

$$a^n$$

$$3^2 = 9$$

$$-6^2 = -36$$

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- ③  $\cdot$  or  $\div$  working from left to right, which ever comes first.

$$[2 \div 4] \cdot 6$$

$$[2 \cdot 6] = 12$$

- ④  $+$  or  $-$  working from  $L \rightarrow R$  which ever comes first.

### Examples

$$-3 - 4 \cdot 8$$

$$(-3) + [(-4) \cdot (8)]$$

$$(-3) + (-32) = -35$$

$$[54 \div (-9)](2)$$

$$(-6)(2) = -12$$

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$$\begin{aligned} & -2(3-4)^2 + 5(1-2)^3 \\ & -2(-1)^2 + 5(-1)^3 \\ & -2(1) + 5(-1) \\ & -2 + (-5) \\ & \boxed{-7} \end{aligned}$$

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