

ALGEBRA BASIC RULES OF OPERATION

Four Basic Rules of Operation

Addition +

Subtraction -

Multiplication **x** or **•**

Division \div

Order of Operations

1. Parenthesis (Do what is in parenthesis first)
2. Exponents
3. \times and \div (left to right) {both have equal priority}
4. $+$ and $-$ (left to right) {both have equal priority}

Addition and Subtraction Signs

When you have signs that are the same, you add the numbers and the sign remains the same.

$$\text{Examples: } -2 + -5 = -7 \quad +2 + +5 = +7$$

When you have signs that are different, you will subtract the numbers, taking the sign of the larger number.

$$\text{Example: } +2 + -5 = -3 \quad -8 + +6 = -2$$

Multiplication and Division Signs

When multiplying or dividing positive and negative numbers, these rules apply.

Positive (+) times Positive (+) = a positive (+) number
Negative (-) times Negative (-) = a positive (+) number

$$\text{Examples: } \begin{array}{ll} +4 \times +9 = +36 & -4 \times -9 = +36 \\ +36 \div +9 = +4 & -36 \div -9 = +4 \end{array}$$

Positive (+) times Negative (-) = a negative (-) number
Negative (-) times Positive (+) = a negative (-) number

$$\text{Examples: } \begin{array}{ll} -4 \times +9 = -36 & -9 \times +4 = -36 \\ -36 \div +4 = -4 & -36 \div +4 = -4 \end{array}$$