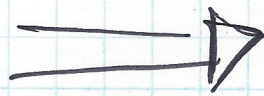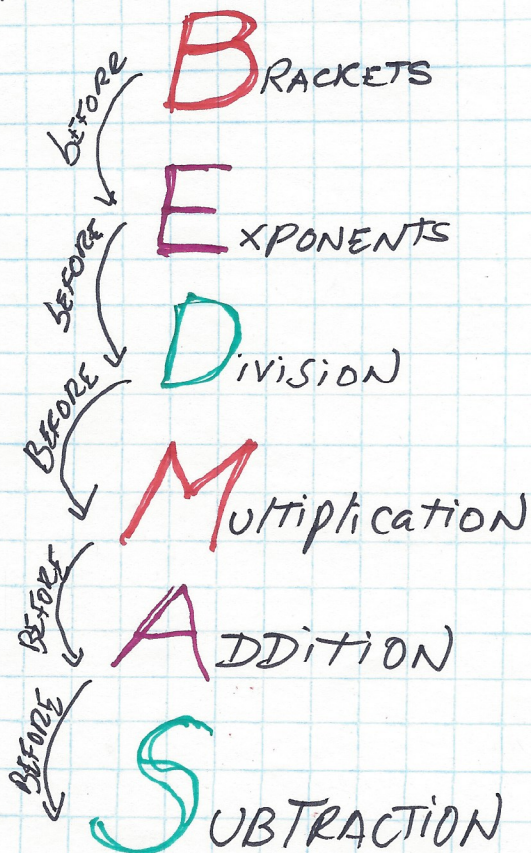# Unit 3.6 Order of Operations with Decimals

THE GOOD NEWS? NO MATTER WHERE OR WHEN YOU FIND DIFFERENT OPERATIONS AS PART OF A BIGGER, MAJOR OPERATION, YOU ALWAYS WILL USE

Brackets
before

Exponents
before

Division
before

Multiplication
before

Addition
before

Subtraction

$\Longrightarrow$ THIS IS THE ORDER OF OPERATIONS

WHEN DO WE USE IT?

ANYTIME THERE IS MORE THAN ONE OPERATION!

- LOOK AT THE PROBLEM:

  Is there addition?

  Is there subtraction?

  Is there multiplication?

  Is there Division?

IF YOU ANSWER **YES** TO **MORE THAN**

1 QUESTION → USE BEDMAS

LET'S DO SOME EXAMPLES

#① $0.38 + 16.2 \times (2.1 - 1.2) + 21 \div 0.8$

Look at the problem:

Is there more than 1 operation? → Yes

USE BEDMAS

$0.38 + 16.2 \times (2.1 - 1.2) + 21 \div 0.8$

#1 - BRACKETS → $2.1 - 1.2 = \underline{0.9}$ SO:

$0.38 + 16.2 \times (0.9) + [21 \div 0.8]$

#2 - DIVISION → $21 \div 0.8 = \underline{26.25}$

$0.38 + [16.2 \times (0.9)] + 26.25$

#3 - Multiplication → $16.2 \times 0.9 = \boxed{14.58}$ So:

$0.38 + 14.58 + 26.25 = 41.21$

∴ ANSWER IS 41.21 !

BE CAREFUL: IF YOU DON'T FOLLOW BEDMAS, YOU'LL GET THE WRONG ANSWER !!

#2 $12.376 \div (4.75 + 1.2) + 2.45 \times 0.2 - 1.84$

More than 1 operation? YES → USE BEDMAS

$12.376 \div (4.75 + 1.2) + 2.45 \times 0.2 - 1.84$

#1 - BRACKETS → $4.75 + 1.2 = \boxed{5.95}$ so

$12.376 \div 5.95 + 2.45 \times 0.2 - 1.84$

#2 - DIVISION → $12.376 \div 5.95 = \boxed{2.08}$ so

$2.08 + 2.45 \times 0.2 - 1.84$

#3 - Multiplication → $2.45 \times 0.2 = \boxed{0.49}$ so

$2.08 + 0.49 - 1.84$ $2.57 - 1.84 = $

↳ #4 - ADDITION → $2.08 + 0.49 = \boxed{2.57}$ 0.73

- GO STEP BY STEP. DO THE OPERATION, AND MAKE SURE YOU RE-WRITE THE ENTIRE OPERATION WITH THE NEWLY OBTAINED VALUE!

- REPEAT THIS FOR EACH STEP.
- THIS WILL HELP YOU MINIMIZE THE CHANCE OF MAKING MISTAKES!

Remember:

IF MORE THAN 1 OPERATION

✳   ∨   ✳

BEDMAS

RACKETS
XPONENTS
IVISION
ULTIPLICATION
DDITION
UBTRACTION