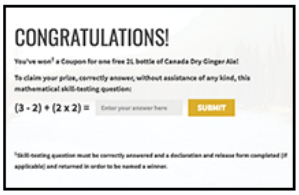
1.4 – Order of Operations with Rational Numbers

Name:_____ Block_____

Have you ever seen a contest where your were required to answer a skill testing question like the one below for free Canada Dry products:

4 Answer Skill-Testing Question

If you win a Daily Instant Win Prize, correctly answer the skill-testing question. Depending on the prize won, you may need to complete and return a declaration and release form.
(EXAMPLE: 5 + 4 x 2 ÷ 3=)



5 Earn Bonus Entries

To earn up to 20 BONUS entries into the Grand Prize draw for your Region (see Rules for details), play the Bonus Entries game. Click on your choice of can to reveal how many Bonus Entries you will earn.

The example from above is: 5 + 4 x 2 ÷ 3 =

What do you think the answer is?

There is a ***hierarchy to math operations,*** some are supposed to be carried out before others. We call this the order of operations or you may know it as **BEDMAS.**

Here are the rules:

B_____

- complete operations within _____ first, if there is more than one operation also follow BEDMAS within the brackets
- treat any operations under the s_____ r_____ symbol as if it is inside brackets

E_____

- simplify any exponents *(we will talk a lot more about exponents in Unit 3)*
- treat the square root symbol as if it was an exponent and simplify now

D_____

- divide and/or multiply

M_____

- do these operations in the order that they appear from left to right

A_____

- add and/or subtract

S_____

- write any fractions with a common denominator and do these operations in the order they appear from left to right

The acronym **BEDMAS** will help you remember the order.

Have another look at your answer for the skill testing question. Do you think you have it correct? Why or why not?

Example #1:

a) $-3 - 5 + (2 - 7)$

b) $3 \times 2 + 16 \div 2^2$

c) $-2 + 3\,[2 - 4(5-3) + 10]$

d) $\dfrac{-4 + 3(2 + 10)}{-1(6 + 2)}$

e) $2^3 \times 3 \div 8 - \dfrac{(4)(6-10)}{2} - 24 \div 2^3$

f) $\sqrt{\frac{3}{4} + \frac{1}{4}} \times 5 + 2(-2 \times 10)$

g) $15 \div (-2.5) + \sqrt{6.25} - 3^2$

h) $[\,1\frac{1}{2} + (\frac{3}{4} - \frac{1}{2}) - \sqrt{\frac{1}{4}}\,] \times 4$

Homework

Section 1.4 pg 30-31
Questions #1-5, 7, *9 *10