Understanding Math

Concept: Order of Operations

Name: _____

COMPUTER COMPONENT

Instructions: Select the computer program *Understanding Whole Numbers and Integers* (Neufeld)
Follow the instructions to the Main Menu.
Select *Order of Operations* from the Main Menu.

Work through all sections of the following topics **in order**:

- *Order in Addition-Whole Numbers and Integers*
- *Order in Multiplication- Whole numbers and Integers*
- *Why use Order of Operations?-Whole Numbers and Integers*
- *BEDMAS*
- *Please Excuse My Dear Aunt Sally*
- *Example Questions- Whole Numbers and Integers*
- *Word Problems*
- *Practice Questions*

As you work through the computer exercises, make your notes in your notebook/math journal.

When you reach the end of the section *Practice Questions* on the computer, move on to the **OFF COMPUTER EXERCISES** portion of this handout.

OFF COMPUTER EXERCISES

1. Circle **true** or **false** for each of the following questions..

(a) Addition can be performed in any order. — **true** / false

(b) The B in BEDMAS tells us to start with the outermost brackets, then work inward. — true / **false**

(c) Addition and Subtraction occur before Division and Multiplication according to the Order of Operations rules. — true / **false**

(d) Division and Multiplication are performed from left to right. — **true** / false

(e) The E in BEDMAS stands for an equal sign. — true / **false**

2. Use your knowledge of BEDMAS to help you solve these problems.

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

= (+5) +(-6)

= -1

(b) (-4) + 8 ÷ 2

= (-4) + (+4)

= 0

(c) (-9)(+6) ÷ (+3)

= (-54) ÷ (+3)

= -18

(d) 12 ÷ (-4) - 1(-8)

= (-3) + (+8)

= +5

(e) (-10 + 2) × (8 - 1)

= (-8) × (7)

= -56

(f) -5(9 - 4 × 6)

= -5(-15)

= +75

(g) 4[8(4 - 8) ÷ (-2)]

= 4(-32 ÷ -2)

= 4(+16)

= +64

(h) [((-8) + 5) ×(-1)] ×[(-4)(-3) ÷ (-2)]

= ((-3) × (-1)) × ((+12) ÷ (-2))

= (+3) × (-6)

= -18

(i) [-8 + (-9)(3)] ÷ [(-15) - (+20)]

= (-8 + (-27)) ÷ (-35)

= (-35) ÷ (-35

= 1

j) (+36) ÷ [(-14) - (-11)] + (+4)

= (+36) ÷ (-3) + (+4)

= (-12) + (+4)

= -8

(k) $\frac{3 - 9}{(+5) + (-7)}$

= -6 ÷ -2

= 3

(l) $\frac{9(-9 + 4)}{[(-1) + 2 \times 3]}$

= 9(-5) ÷ (-5)

= -45 ÷ (-5)

= 9

(m) $\frac{(30)(-4)+(8)(10)}{2+(-2)(3)}$

= ((-120) + (80)) ÷ -4

= -40 ÷ -4

= 10

(n) $\frac{(10)(10)+(4)(-5)}{-6-4}$

= ((100) + (-20) ÷ -10

= (80) ÷ -10

= -8

3. A mechanic charges his customers $15 per visit plus $25 for every hour that he works on their vehicle. If he works on a van for 5 hours, how much will he charge the customer? *Use integers as you solve this problem.*

(+25)(+5) + 15

= 125 + 15

= 140 $140 He will charge the customer $140.

4. A grocery store makes a fruit basket consisting of 4 pears, 6 apples, 8 oranges, and 2 bananas. If the store receives 11 orders for gift baskets on a certain day, how many pieces of fruit are they using altogether? *Use integers as you solve this problem.*

11(4 + 6 + 8 + 2)

= 11(20

= 220 They will be using 220 pieces of fruit altogether.