Student's Name:……………………..…..
Student's ID:………………….…..……..

Note: This homework covers some problems from the **real number operations and properties**.

*Solve the following **three problems**:*

Problem 1: Determine whether the following is **true** or **false**:

   a. $-500.34 \geq -200.87$

   b. $\left|-\frac{200}{2}\right| < \{(3455.45) - (4000.23)\}$

   c. $3.56 \leq 3.56$

   d. $2.56 \geq 2.56$

   e. $0.\overline{3} > 0.44$

   f. $\dfrac{2^3 + \sqrt[3]{125} + \left(\frac{15}{5}\right)}{\left(\frac{22}{2}\right) + |-20|} \geq \dfrac{\sqrt{25} - |-23| + 64^{\frac{1}{2}}}{34 + \sqrt{100}}$

   g. $2^0 < 2^{0.5-1}$

Problem 2: Add the following using the number line:

   a. $-5 + 2$

   b. -10+8

   c. $-5 - 1$

   d. $-3.5 - 1.5$

   e. $0 - 4$

   f. $5 + (-5)$

   g. $-(-1) - -(-3)$

   h. $+(-3) \cdot (-2) + -(-2 \cdot -1)$

   i. $-\frac{15}{-3} + \left(-\frac{2}{0.5}\right)$

**Problem 3:** Simplify (evaluate) the following mathematical expression:

$$\frac{2^2\left(\frac{10}{2}\right) + \sqrt[3]{125} + 2 - 1}{\left(\frac{50}{2}\right) - 12 + 2^0}$$

Extra Credit Problem 1 (2 points): Simplify (evaluate) the following mathematical expression:

$$\frac{2^{-1}\left(\frac{10}{0.5}\right) + \sqrt[4]{390625} + e^0 + |12 - 50| - 1}{\left(\frac{50}{2}\right) - 12 + 2^0 + 3\sqrt{25}}$$

Extra Credit Problem 2 (3 points): Answer the following questions:

a. Your professor Mohammed Kaabar received an academic award in 2016 from California State University – Long Beach. What is the name of the award that he received from CSU – Long Beach? **Hint: Use this resource:**

http://info.merlot.org/merlothelp/merlot_awards_peer-reviewer-extraordinaire.htm

b. What are the methods of innovative math teaching that Mohammed Kaabar mentioned them in his famous blog's post published on the American Mathematical Society? **Hint: Use this resource:** http://blogs.ams.org/mathgradblog/2015/11/28/students-overcome-fears-create-supportive-classroom-students-good-questions/#sthash.AefgbV3W.dpbs

c. What is the title of Mohammed Kaabar textbook that is currently used for MATH 2320 course at Houston Community College? **Hint: Use this resource:**

http://hcclibraries.net/ListMath
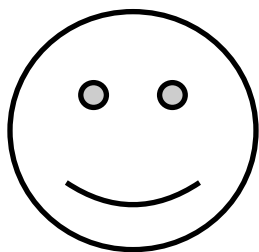
We always learn from the challenging math problems.
Practice + Study = Success
Good Luck
Mohammed Kaabar