Mrs. McLendon 8th grade Pre-Algebra
Boston Collegiate Charter School
Course Description 2011-2012

COURSE OVERVIEW

Our goal is to prepare all of our students to be successful mathematicians in high school, college, and in life. We aim for them to see mathematics as sensible, useful, and worthwhile, and for them to improve their skill in carrying out procedures flexibly, accurately, efficiently, and appropriately. Therefore, this class builds students' math practices in the areas of number sense and pre-algebra concepts, as well as their study practices and abilities to ***persevere***, to prepare them for further Algebra studies in high school.

Students will further develop their mastery of fundamental math skills as well as deepen their understanding of previously mastered Pre-Algebra concepts. Throughout the year they will come in contact with concepts in the areas of algebra, geometry, data analysis, statistics, and probability. Students will demonstrate the depth of their understanding through their ability to perform computational procedures as well as solve problems requiring the application of these concepts.

The topics in the course will require all students to:

- Understand ratios and develop understanding of proportionality, including percent problems, scale drawings, unit rates, and slope.
- Recognize fractions, decimals, and percent as different representations of rational numbers
- Perform operations with all rational numbers and maintain the relationships between addition and subtraction, and multiplication and division
- Follow the Order of Operations to solve problems involving exponents, roots, and absolute values
- Explain and interpret rules for arithmetic with negative numbers
- Create and work with expressions and equations with one variable
- Solve problems involving area, perimeter, and circumference of 2-D shapes including circles
- Solve problems involving surface area and volume of 3-D objects
- Have familiarity with relationships between angles in 2-D figures and formed by intersecting lines
- Compare data distributions and draw inferences about populations based on samples

Advanced topics in the course may require some students to:

- Use linear equations to represent, analyze, and solve a variety of problems
- Understand slope as a constant rate of change
- Solve linear equations in one variable
- Translate among representations of functions (equation, graph, table, scenario)
- Use ideas about distance and angles to create translations, rotations, reflections and dilations
- Apply the Pythagorean Theorem to find distances and lengths
- Use ideas about congruence and similarity to solve problems
- Solve volume problems involving cones, cylinders, and spheres

CLASS EXPECTATIONS

BE MINDFUL
- Show respect for all people (teachers, classmates, and visitors), for our space, and for our supplies.
- Help and encourage others and celebrate their successes.

BE ACHIEVING
- Concentrate on learning at all times- provide answers when you can and ask questions otherwise.
- Show your work- neatly.
- Always try your best and ***persevere***.

BE PROFESSIONAL
- Enter the room quietly and start working immediately.
- Record your homework in your agenda.
- Pack up only when you are dismissed by the teacher.

BE PREPARED
- Come to class with all of your materials, including an organized binder each day.
- Do your homework and review your notes.
- Be ready to learn- leave your "baggage" outside the room.

GRADING POLICY (BY QUARTER)

20% **Homework** – student practice and review done outside of regular classtime
20% **Class work** – participation, do now, stations, worksheets, etc.
30% **Minor Assessments**- quizzes, longer class assignments, presentations, group projects, etc.
30% **Major assessments**- tests, significant projects, etc.

ABSENCE POLICY

If you are absent, you are responsible for turning in the classwork and homework the day after your return. If your buddy did not collect work for you, you are responsible for checking in with the teacher. Borrow a friend's binder to copy class notes but complete the homework on your own.

SUPPLIES/MATERIALS

- **Writing Utensils**
  - Pencils – students need to do ALL homework and class work in pencil. Work in pen will not be accepted.
  - Red Correcting Pen
- **Tools**
  - Ruler – students are often going to need a ruler at home to complete their homework
  - Protractor- students will be reminded when they will need to start bringing this to school
  - Calculator- see policy below!
- **Binder**
  - 3-ring, and at least 1 inch
  - Should contain plenty of loose-leaf paper (consider including lined *and* graph!)
  - 5 Binder dividers:
    - 1. Do Now
      - 2. Classwork
        - 3. Homework
          - 4. Quizzes/Tests
            - 5. Toolkit (Vocabulary)

In general, calculators should not be used unless the teacher tells you otherwise. You may bring one but its use is at the teacher's discretion.

Please feel free to email me at lmclendon@bostoncollegiate.org or call me at (617) 265-1172 ext. 299 with any questions or concerns.

(Please complete and return this part to Mrs. McLendon)

I have read the above information and am aware of the expectations for 8th grade Pre-Algebra. I will *persevere* this year, and know that this will lead to success!

Student Signature _____

Parent Signature _____