Integrated Math 3

Mr. Santacruz

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*“Go down deep enough into anything and you will find mathematics.”*

*Dean Schlicter*

***CLASS GOALS:*** *100% of students will master Common Core Standards learned in this class.*

**COURSE DESCRIPTION:**

IM3 is the third year of a three-year integrated math sequence that continues to extend the mathematics that scholars learned in Mathematics 1 and Mathematics 2. The Interactive Mathematics Program is a three-year integrated curriculum designed to meet the geometry requirement over three years, and includes the California Common Core High School standards from the conceptual categories of Number and Quantity, Algebra, Functions, Geometry, and Statistics and Probability.

We will be following the IMP (Interactive Mathematics Program) curriculum. IMP is problem-based. The textbook consists, primarily, of problems for YOU to solve. There are no worked out examples for you to follow. The text's problems really are problems—mathematical situations that may be new to you, requiring your group and you to figure out what to do when they don't tell you exactly what to do. **We will become great problem solvers!**

**COURSE OUTLINE:**

This course will consist of five main units in which students will continuously build on prior knowledge to investigate an essential unit question. Each unit will conclude with a summative test that is designed to reflect rigor and expectations. Units include:

1. **The Orchard Hideout-** Students study circles and coordinate geometry to determine how long it will take before the trees in a circular orchard grow so large that someone standing at the center of the orchard cannot see out.

2. **High Drive** -Using trigonometry, polar coordinates, and the physics of falling objects, students model this problem: When should a diver on a Ferris wheel aiming for a moving tub of water be released in order to create a splash instead of a splat?

3. **The World of Functions** - In this unit, students explore families of functions in terms of various representations—tables, graphs, algebraic representations, and situations they can model; they also explore ways of combining functions using arithmetic operations and composition.

4.  **Is there really a difference?**- Students build on prior experience with statistical ideas from IMP Year 1, expanding their understanding of statistical analysis.

5. **Pennant Fever** - Students use combinatorics to develop the binomial distribution and find the probability that the team leading in the pennant race will ultimately win the pennant.

**COURSE TEXTS:**

Major course practices and homework will be drawn from the following sources:

Interactive Mathematics Program Year 3 2015 Edition

This text and/ or exercises can be accessed in class or occasionally at:

**Santacruzmath.weebly.com**

**ASSIGNMENTS:**

1. Homework and Classwork (every day)
2. Quizzes (about every 2 weeks)
3. Unit Tests (1 per unit)
4. POWS –Problem of the Week (2 per unit)

**REQUIRED MATERIALS:**

Every day, students must have:

1. A pocket folder (provided)
2. Spiral Notebook (provided)
3. Writing utensil (pencil)

**\*\*Pocket Folder and Spiral Notebook are not to be taken out of math class**

**CLASSROOM EXPECTATIONS:**

1. **Follow teacher and staff directions at all times.**
2. **Be on time, on-task, in dress code, and prepared to learn EVERY DAY.**
3. **Respect our classroom**: No vandalism, tagging, or destruction of school property.
4. **Use appropriate language**: No cursing, teasing, or bullying.
5. **Focus on learning**: No food, drinks, or electronics.
6. **Respect others’ workspace and belongings**: Keep hands, feet and objects to yourself.
7. **ADVOCATE FOR YOURSELF**: Always reach out for help if you need it!