Integrated Math B
Course Preparedness Profile & Expectations

This course is designed for students who have a strong understanding of 7th grade standards, earning a "C" or higher in Math A. Students entering from Math A Readiness are required to take a summer bridge course and show proficiency.

Below are some guidelines for choosing the best course for an individual student. This is *not* a placement test and it should *not* be used as the only criteria for making placement decisions.

Student Background

Students entering **Integrated Math B** should *already* have a good understanding of the following concepts:

- Analyze proportional relationships and use them to solve real world mathematical problems.
- Operations with positive and negative rational numbers.
- Approximate irrational by rational numbers.
- Use properties of operations to generate equivalent expressions.
- Solve real-life and mathematical problems using numerical and algebraic expressions and equations.
- Draw, construct and describe geometrical figures and describe the relationships between them.
- Solve real-life problems involving angle measure, area, surface area, and volume.
- Solve real-life problems involving volume of cylinders, cones, and spheres.
- Use random sampling to draw inferences about a population and draw informal comparative inferences about two populations.
- Investigate chance processes and develop, use, and evaluate probability models.

Students entering **Integrated Math B** should also be able to solve problems such as

Proportional Reasoning Problem	Numerical and Algebraic Equations
Tim makes 80 gallons of paint by mixing 48 gallons of green paint with 32 gallons of blue paint. What part of every gallon is from green paint?	A. Jerry needs 216 posts to build a fence. He has 88 posts and needs p more. Write an equation to show how to solve for the number of posts Jerry needs. B. Each post requires 8 nails for installation. There are 250 nails in a box. How many boxes of nails does Jerry need?
Probability Problem During a math class, 24 students tossed three coins once. How many students would you expect to get a result of 3 heads or 3 tails?	C. Jerry will build another fence that is 48 feet long. The posts can be a minimum of 5 feet apart and a maximum of 9 feet apart. The posts should be equally spaced. Design a fence that uses the fewest posts possible.
Geometry Problem A framed picture 24 inches wide and 28 inches high. The picture will be hung on a wall where the distance from the floor to ceiling is 8 feet. The center of the picture must be 5¼ feet from the floor. Determine the distance from the ceiling to the top of the picture frame.	**Operations with Rational Expressions** Alex claims that when ¼ is divided by a fraction, the result will always be greater than ¼. A. Create an expression that supports Alex's claim B. Create an expression that contradicts Alex's claim.

Course Content and Expectations
In **Integrated Math B**, students will learn concepts such as:

- Work with radicals and integer exponents
- Understand the connection between proportional relationships, lines, and linear equations.
- Solve linear equations as well as apply graphical and algebraic methods to analyze and solve systems of linear equations in two variables.
- Recognize equations for proportions as special linear equations and understand the relationship between the constant of proportionality and the slope.
- Use linear equations to describe the association between two quantities in bivariate data and to interpret components of the model (i.e. slope and y-intercept) in terms of the situation.
- Solve systems of equations and relate the systems to pairs of lines in the plane.
- Define, evaluate, and compare functions, and use them to model relationships among quantities.
- Understand how figures behave under translations, reflections, dilations, and rotations.
- Understand congruence and similarity to describe and analyze two-dimensional figures and to solve problems.
- Relates angles and similar triangles created when a transversal cuts parallel lines.
- Understand and apply the Pythagorean Theorem
- Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.

As in all math courses offered at SDUHSD, students are aware of and make use of all **Standards for Mathematical Practices:**

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Grades will be calculated within the following guidelines:
- Assessments: 70-80%
- Assignments: 20 – 30%

Students will be expected to work collaboratively as well as individually. On a regular basis, classes will include:
- Group problem solving followed by group presentations.
- Open ended problems that are applications of the content being covered.
- Challenge problems, which may consist of detailed diagrams and a single page write-up.