Cathedral School

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$$(a + b)^2 = a^2 + 2ab + b^2$$
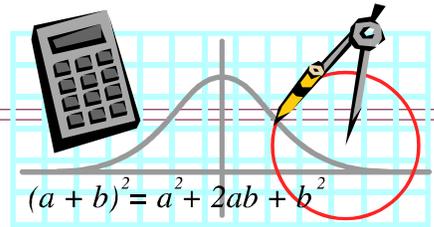
The Cathedral Math Department believes that the understanding of math concepts will allow students to succeed in life. Our goal is to challenge students in order to develop their critical thinking skills and become life-long learners.

Whole Numbers

0 1 2 3 4 5 6 7 8 9

Add Integers With Number Line

$+3 + -5 =$

$+3$

-6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6

What is a rational number?

$\frac{a}{b}$ integers, $b \neq 0$

Rational Number: 5 $-1\frac{2}{5}$ 0.25 $0.66\overline{6}$

Fractional Form: $\frac{5}{1}$ $-\frac{7}{5}$ $\frac{1}{4}$
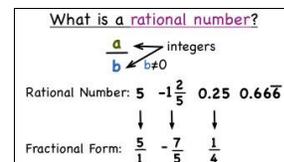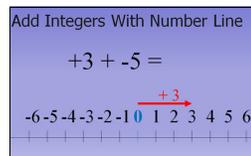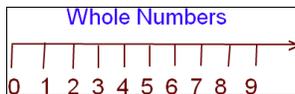
Sixth Grade Math

The curriculum includes: operations with whole numbers, integers, and rational numbers, number theory, measurement, functions and equations, geometry, ratio and proportion, percents and probability. Each student is required to have a 3-ring binder which is sectioned into important math topics. Throughout the year, students will study and input information sheets as an additional resource. They will utilize this binder throughout their middle school career! Study tips and test taking techniques are taught and practiced throughout the year as well. Students are taught to use notecards, to study vocabulary, and to prepare for tests.

Teacher recommendation for Math 7 or Algebra 7 is based on academic performance.
Text: Mathematics (McGraw Hill)

Seventh Grade Math

The curriculum includes: algebra, measurement, statistics, integers, equations and functions, fractions, decimals, percents, ratio and proportion, and probability and geometry including 2-D and 3-D figures. Study tips and practical use of the 3-ring binder are reinforced. In the fourth quarter, students will do a project on the Pythagorean Theorem.

Teacher recommendation for Math 8 or Algebra 8 is based on academic performance.
Text: Mathematics: Applications and Concepts Course 2 (Glencoe Mathematics)
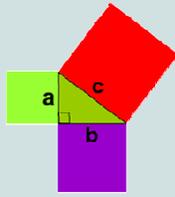
2 boys : 5 girls = __ boys : 20 girls

$\frac{2 \text{ boys}}{5 \text{ girls}} \times \frac{x}{20 \text{ girls}}$

$\frac{5x \text{ girls}}{\text{girls}} = \frac{40 \text{ boys girls}}{\text{girls}}$

$\frac{5x}{5} = \frac{40 \text{ boys}}{5}$

x = 8 boys

$$a^2 + b^2 = c^2$$

"Pythagoras' Theorem" and can be written in one short equation: $a^2 + b^2 = c^2$

Eighth Grade Math

This course focuses on preparation for Algebra through the development and strengthening of skills and topics that recur time after time. Students will work on operations of integers and rational numbers, equation solving, square roots and Pythagorean Theorem, proportions, percents, geometry including angles, polygons, area and volume, probability, statistics and matrices, algebraic expressions and equation and linear functions

Teacher recommendation of Algebra or Algebra 1A is based on academic performance.
Text: Mathematics Applications and Concepts Course 3 (Glencoe Mathematics)

Geometry

Prerequisite: Algebra (C or better)

A goal of this Geometry class is to teach students to think in an organized and logical manner. Students do activities to discover the meanings of theorems and the relationships between geometric figures. Students work as a group to learn to write two column proofs and several other projects. The topics of study in this course include: points, lines, planes and angles, parallel lines and planes, congruent polygons, parallelograms, geometric inequalities, similar polygons, right triangles, circles, areas of plane and solid figures, volumes of solid figures, coordinates and transformations. To prepare students for High School, geometry students will be given a quarterly or semester exam.

Teacher recommendation of Algebra 2 or Honors Algebra 2 is based on academic performance.

Text: Geometry (Houghton Mifflin)