

Heritage Academy Math Study Guide

I. Rational Numbers

- a. adding, subtracting, multiplying and dividing whole numbers
- b. adding, subtracting, multiplying and dividing fractions
- c. adding, subtracting, multiplying and dividing decimals
- d. converting fractions to decimals, decimals to percents and vice-versa
- e. reducing fractions
- f. converting mixed numbers to improper fractions and vice-versa
- g. adding, subtracting, multiplying and dividing integers (positive and negative numbers)

II. Order of Operations

- a. Simplify $2(3 - 5) + 6 - 3(8)$

III. Evaluating Expressions

- a. Evaluate $a - b$ for $a = -3$ and $b = -10$

IV. Solving 1-step Equations

- a. Solve $\frac{1}{3}x = 15$

Please note:

You may find sample problems by doing a Google search of the concepts.

One good resource is <http://mathworksheets4kids.com/>

Math placement is assigned by the math department chair. It is determined by your child's score on the placement test and their grades in previous math classes.

Upon entry to Heritage Academy, these are the 3 class options. Content covered is listed below.

General Math

- Operations on Rational Numbers (add/sub/mult/div whole numbers, fractions, decimals & integers)
- Basic Geometry (definitions, perimeter, area, etc.)
- Solving 1 and 2 step equations
- Basic Probability
- Collecting, Displaying and Analyzing Data (graphs and charts, measures of central tendency)

Pre-Algebra

- Solving Multi-step Equations and Inequalities
- Geometry (Pythagorean Theorem, classifying shapes, transformations, area and volume of 3-D figures)
- Operations on Rational Numbers (review of concept)
- Proportions
- Introduction to Linear Functions

Algebra I

- Graphing and Solving Linear, Quadratic, Absolute Value, Square Root and Exponential Functions
- Probability
- Solving Linear and Non-Linear Systems of Equations
- Arithmetic & Geometric Sequences

***Placement into Geometry or higher requires proof of scholar earning grade C or higher in a *high school equivalent* Algebra I course.

Heritage Academy Reading and Writing Study Guide

The placement test will include some of the following specific areas of writing and reading.

Reading:

- Identify the meanings of words in context of the passage.
- Interpret the general idea of a passage.
- Comprehend literature by understanding inferences (draw conclusions based on facts or evidence).
- Identify an author's purpose(s) for writing a piece of expository (informational) text.
- Distinguish fact from opinion in a piece of writing.

Grammar:

- Know the parts of speech (verbs, nouns, pronouns, adjectives, etc.)
- Know capitalization rules.
- Know the difference between a fragment, run-on, and complete sentence.
- Know the rules that apply to punctuation (commas, semi-colons, colons, etc.).

Writing:

- Be able to write a short essay (2-3 paragraphs) with attention to spelling, punctuation, grammar, and capitalization.
- Be familiar with the traits of good writing, particularly good word choice and correct sentence structure.
- Recognize and understand basic punctuation and good grammar.