Algebra Readiness Online Tutorials and Resources

Dear Students and Families:

The following Algebra Readiness resources will provide you with access to online tutorials, practice activities, and study materials to prepare for a successful Algebra 1 experience.

http://www.sophia.org/common-core-standards/mathematics-algebra - Algebra 1 instructional tutorials and practice activities

http://www.sophia.org/common-core-standards/mathematics-grade-8 - Pre-Algebra tutorials and practice activities

http://www.khanacademy.org/commoncore/grade-8-EE - Khan Academy Common Core Map - Personalized learning that lets students practice what they most need help on, at their own pace. Each problem is accompanied by a step-by-step solution created specifically for that problem, as well as video tutorials and graphical illustrations of each concept and skill

http://mathbits.com/MathBits/TeacherResources/Algebra1/Algebra1.htm - A collection of on-line Algebra 1 resources designed for students

http://www.algebra-class-ecourse.com/Pre-Algebra/index.html - This unit is a quick Pre-Algebra refresher that will help you to freshen up on the most important skills needed for Algebra 1. In this unit you will review integer rules, order of operations, like terms, distributive property and formulas. You may print out the entire workbook at once or print lessons individually

http://www.algebra-class.com/algebra-readiness-test.html - Algebra Readiness Test. The test is divided into sections according to skill. Print out the test and take the test without using a calculator. Do the best that you can! Then use the answer key to check your answers. If you got more than one problem wrong in each section, then you will want to review that particular skill

www.wolframAlpha.com - A website that will allow you to enter a question about anything. You can enter an equation to solve or any type of question and it will provide an answer. It's pretty cool and can help if you don't understand your homework

http://www.math.com/homeworkhelp/PreAlgebra.html - Free pre-algebra math lessons and homework help

www.studyisland.com – Students login with their individual username and password to access standards-based instructional practice activities and assessments aligned to the full range of the Common Core State Standards
Algebra Readiness Key Concepts and Skills to Review

- Add, subtract, multiply and divide fractions, mixed numerals and decimals with and without a calculator
- Apply the order of operations
- Find the side length of a cube
- Graph and interpret proportional relationships
- Describe a qualitative relationship between two quantities from a graph
- Construct transformations (translations, reflections, rotations, and dilations)
- Apply the rules of interior and exterior angles of a triangle
- Know the angle relationships formed by parallel lines and a transversal
- Apply the Pythagorean Theorem to word problems, 3-d figures, and finding the distance between two points
- Calculate percent change and unit price
- Compare unit rates
- Find the volume and missing measurements of cones, cylinders, and spheres including slant height
- Find area, surface area and missing measurements of two and three dimensional figures
- Determine distance between two numbers on a number line
- Calculate probability with and without replacement
- Calculate and interpret averages
- Construct and interpret a scatter plot (tell the relationship formed, outliers, derive an equation)
- Evaluate expressions
- Write an equation in $y = mx + b$ given a graph
- Solve single and multi-step equations
- Compare the slopes (rate of change) and $y$-intercepts of different functions (in forms of graphs, tables, and equations)
- Write an equation in $y = mx + b$ from a description of a relationship in terms of values and interpret the slope/y-intercept
- Extend patterns
Formulas that will be provided during the test:

<table>
<thead>
<tr>
<th>Geometry</th>
<th>Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triangle</td>
<td>( A = \frac{1}{2}bh )</td>
</tr>
<tr>
<td>Parallelogram</td>
<td>( A = bh )</td>
</tr>
<tr>
<td>Circle</td>
<td>( A = \pi r^2 )</td>
</tr>
<tr>
<td>Circle</td>
<td>( C = \pi d ) or ( C = 2\pi r )</td>
</tr>
<tr>
<td>General Prisms</td>
<td>( V = Bh )</td>
</tr>
<tr>
<td>Cylinder</td>
<td>( V = \pi r^2 h )</td>
</tr>
<tr>
<td>Sphere</td>
<td>( V = \frac{4}{3}\pi r^3 )</td>
</tr>
<tr>
<td>Cone</td>
<td>( V = \frac{1}{3}\pi r^2 h )</td>
</tr>
<tr>
<td>Pythagorean Theorem</td>
<td>( a^2 + b^2 = c^2 )</td>
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</tbody>
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