

Summer Math Assignment Incoming Advanced 8TH Grade

Dear Parents of OLA Middle School Students,

Experts from Johns Hopkins University, the University of Tennessee, the University of Virginia and elsewhere say most students, regardless of family income or background, lose 2 to 2 1/2 months of the math computational skills that they learned during the school year. These findings suggest the obvious, children lose math ability when they don't use it.

This summer, to prevent this learning loss, keep the students' math computational skills sharp, and to reinforce the skills that they learned this year, we will be using an interactive website math program, IXL. It is our hope that this will help all of our students enter their next math course well prepared and ready to go!

Over the summer, students are expected to complete at least **10 hours** of math skills practice within IXL. Our hope is that the review will take place over the entire summer rather than during the last few days before we return to school. Ideally, your child will be working on IXL about three times a week over the course ten weeks. All work should be completed between **June 16th and August 31st**. **Work completed after this deadline, although great, WILL NOT be counted towards your grade.** If you do not have a home computer, we encourage you to visit a local library or partner with a friend with internet access.

The summer assignment will be graded based on the amount of time spent actively working on IXL and it will be weighted as the equivalent of a test - 100 points. Thus, each $\frac{1}{2}$ hour fully completed is worth 5 points. Any student who goes above the assigned 10 hours will receive 1 point of extra credit for each extra hour of work they do! It is an easy way to start the term with an A+!

It is our hope that the students will find this a valuable opportunity. If you have any questions, please feel free to contact me.

Patricia.fothergill@ourladyacademy.org

Thank you for your support!

Patty Fothergill

Dear Students,

This summer you need to practice AT LEAST **ten** hours of math skills on IXL. For each section listed below, you should reach a "smart score" of at least 80. Getting started is easy! Sign on to IXL using your username and password assigned during the school year. Choose the 8th grade tab, select a skill from the checklist attached and start answering questions! If you answer a question correctly, you will be given another question. If your answer is wrong you will be given an explanation of why your answer is wrong. Once you understand it, click on "Got it" and you will be given another question.

The skills you are assigned will be needed in the course you are entering in the fall. If you encounter an assigned skill that you don't remember, or think that you have not learned, you can view tutorials on the topic at www.khanacademy.org as well as other websites you find helpful.

The checklist refers to the 8th **Grade material** that each of you need to work on. Individually, I have attached a report of trouble spots you encountered during the school year. These are areas that **you** need to work on to improve **your** knowledge. When working on these individual areas of trouble, you might need to watch Khan Academy videos and do some practice on the concept at a lower grade level to start.

If you complete the material in your grade level before you have spent 10 hours working, please either go back to the sections you had most difficulty with and try to beat your previous score OR challenge yourself by finding the corresponding skill in Algebra and attempt those problems!

If you have any questions, email me! My email is patricia.fothergill@ourladysacademy.org. I will answer within a day or two.

Have a great summer!

Mrs. Fothergill

Operations with integers

- Add and subtract three or more integers
- Multiply and divide integers

Operations with rational numbers

- Add and subtract rational numbers
- Multiply and divide rational numbers

Exponents and roots

- Exponents with negative bases
- Evaluate negative exponents
- Multiplication and division with exponents
- Evaluate expressions using properties of exponents

Percents

- Find what percent one number is of another
- Percent of change

Coordinate plane

- Coordinate plane review
- Quadrants and axes

Pythagorean theorem

- Pythagorean theorem: find the perimeter
- Pythagorean theorem: word problems
- Converse of the Pythagorean theorem: is it a right triangle?

Geometric measurement

- Area between two shapes
- Volume of cubes, prisms, and pyramids
- Surface area of cubes, prisms, and pyramids

Expressions and properties

- Identify terms and coefficients
- Multiply using the distributive property
- Add and subtract like terms

One-variable equations

- Solve two-step equations

- Solve multi-step equations
- Solve equations involving like terms
- Solve equations with variables on both sides

One-variable inequalities

- Solve one-step inequalities
- Graph solutions to one-step inequalities
- Solve two-step inequalities

Linear equations

- Find the slope of a graph
- Find the slope from two points
- Find the slope of a linear equation
- Graph a line using slope
- Graph a line from an equation in slope-intercept form

Systems of linear equations

- Solve a system of equations by graphing
- Solve a system of equations using substitution
- Solve a system of equations using elimination

Data and graphs

- Interpret stem-and-leaf plots
- Interpret box-and-whisker plots
- Choose the best type of graph

Statistics

- Quartiles
- Identify an outlier and describe the effect of removing it
- Identify representative, random, and biased samples

Probability

- Compound events: find the number of outcomes
- Probability of independent and dependent events
- Factorials
- Permutations
- Counting principle