

**General Course Information**

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| **Course Title** | **MS Math (Polar)**  |
| **Description** | **Middle School Math:** Operations with Integers, Rational Numbers and Equations, Proportions and Variation, Percents, Similarity and Transformations, Surface Areas of Solids, Volumes of Solids, Data Analysis and Samples, Probability |
| **Room Number** | **140** |
| **Faculty Name** | **Patrick Ritt** |
| **Contact Information** | 810-225-6757pritt@kwoods.org  |
| **Course website** | Ritt.kwoods.org |

**Introduction**

“The writers of the Common Core State Standards ask, “What does mathematical understanding look like?” One indication of understanding is the ability for students to justify why a mathematical statement is true or where a mathematical rule comes from.”

Our curriculum is a combination of the discovery and direct instruction approaches. Students gain a deeper understanding of the math concepts by narrowing their focus to fewer topics and by delving into concepts through inductive reasoning opportunities, engaging activities, concise examples, and rich, thought-provoking exercises.

**Course Expectations**

Students are expected to have one notebook for Math Notes. This book will include examples and vocabulary from class. Homework should be done in a separate notebook or on loose leaf paper. Homework needs to include **Name, date assigned, Section (example 2.1) and list the problems assigned**.

There will be daily assignments in Math. We will do a quick check the next day and students will be expected to notify Mr. Ritt if they need extra help. I expect Math homework to last 30-50 minutes maximum most nights. Please show your work. If a student is consistently spending more time, please let me know. I want Math to be a positive experience and I work very hard to reduce anxiety.

 I will collect homework every Wednesday. All papers should be clearly labeled. If the assignment is not labelled, or to sloppy to read, it will show up as missing work.

There will be quizzes during the unit and a Unit test at the end. These will comprise the majority of the grade. If a student does not demonstrate mastery on the test, I may ask them to redo assignments. When they can demonstrate mastery students will be allowed to re-take an assessment.

**Essential Standards of Learning**

Students will be able to:

* Make sense of problems and persevere in solving them
* Reason abstractly and quantitatively
* Construct viable arguments and critique the reasoning of others
* Model with mathematics
* Use appropriate tools strategically
* Attend to precision
* Look for and make use of structure
* Look for and express regularity in repeated reasoning

**Prerequisite knowledge/skills for success in this course**

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| Mastery Level |  Work habits: Students will be able to work effectively independently and in groups.Academic integrity: Students will act honestly and ethically in their work.Study skills: Students will adhere to assignment deadlines. |
| Familiarity Level | Intellectual openness, Analysis, and Interpretation (definitions in next section)Reading and Comprehension:Research: Students have had some experience… |

**Course Materials**

I ask that students have 1 notebook for a Math Reference Book. This will contain example problems and vocabulary. Work and homework should be completed out of another notebook or on loose leaf paper. Students should also come prepared with writing utensils. For in-class projects I will have markers, glue, etc. in the classroom.

**Grading**

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| Your ***semester*** grade will be determined as follows:  ***Summative Assessment.....90% Semester Exam.....10%******Formative Assessments- Practice******Daily assignments & activities******Summative Assessments-*** ***Chapter reviews, quizzes, tests & projects*** | ***KWS follows the following grading scale:***A = 95-100 (4.0) C+ = 77-79 (2.3)A- = 90-94 (3.7) C = 73-76 (2.0) B+ = 87-89 (3.3) C- = 70-72 (1.6) B = 83-36 (3.0) F = below 70 (0.0) B- = 80-82 (2.7) |

Mastery Learning Program – The Mastery Learning Program is a program that allows every student the opportunity to succeed and, therefore, increases student achievement. In the program, every Kensington Woods student is expected to complete every assignment given by their teachers, providing them with the most opportunities for success. Students who do not complete their assignments (practice), or complete them with low quality, will be placed on the Mastery List and will be provided with extra opportunities to practice throughout the day.

Daily Assignment Policy

1. Assignments should be done neatly. The process of solving a math problem is just as important as the final answer. Therefore, you must show your work!

2. Assignments that are not completed during class time are expected to be finished as homework before the date it will be collected, usually Wednesday of each week. On the due date, students must turn in an assignment that shows their best effort. If students feel that they need additional time to master the material, they must make arrangements with Mr. Ritt to get help outside of class time. If students do not turn in an assignment the day that it is collected, it will be put on the Mastery List that evening and will be taken off the list after students have had an opportunity to demonstrate mastery of the concepts in the assignment.

3. It is the students' responsibility to make sure that they find out what they missed during their absence. Students should check the class assignment list for a listing of the topic and assignment and make sure that they pick up any handouts that they may have missed.

Retakes

* ***Retakes*~** **KWS- Request to Revise or Retest** Generally, students are not allowed to retake a chapter quiz or test during class time. However, students may fill out a ‘Request to Retest’ form and make arrangements outside of class time to master the material and then, retest.

**Classroom Expectations**

* ***Classroom Expectations****-*  Students should come to class ready to learn. Students should respect the learning environment, including the people and property around them.
* ***Cell Phones-*** Students should not have cell phones out during class instruction or class activities without permission. If students are using their phone to distract the learning environment (ie showing a video to friends) it will be taken from the student without warning.
* ***Beginning of Class-*** Be on time and in your seat with all required materials. ***\*\*\*Book, , Folder, Assignments, Pencil, Paper\*\*\****

* ***Class Assignments & Activities***~ Students will be expected to participate in classroom activities and to complete classroom assignments. Class assignments will usually be graded on effort and completeness. Assignments will generally be collected on a weekly basis. Students will sometimes be given the responsibility to check their own assignments in class.
* ***Handing in Work-*** Typically, students will hold on to their class assignments which will be collected once a week by the teacher . If directed to hand in work, students will use the blue tray at the front of the room with their block time labeled on it.
* ***End of Class-*** Students are expected to return all materials to their designated places and then return to their seats. Students will be dismissed by the **teacher. All students must be seated before class will be dismissed!**
* ***Finding out Course Grade-***  Students are encouraged to check MI-STAR in order to track their grades. Students may also make arrangements to see me outside of class to find out grade information. Time will not be taken out of class on a daily basis to discuss individual student grades.

**Schedule**

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| Time Frame | Topic | Assessment |
| September  | September 2016Sections 1.1 to 1.4 |  |
| October | October 2016Sections 1.4 to 2.1 |  |
| November | November 2016Sections 2.2 to 3.2 |  |
| December | December 2016Sections 3.2 to 3.8 |  |
| January | January 2017Sections 4.1 to 5.2 |  |
| February | February 2017Sections 5.2 to 6.1 |  |
| March | March 2017Sections 6.1 to 6.6 |  |
| April | April 2017Sections 7.1 to 7.6 |  |
| May | May 2017Sections 8.1 to 9.2 |  |

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| **Unit Overview** | **Essential Questions** | **Tasks/Activities** | **Assessment Task(s)** | **Instructional Resources and/or Vocabulary** |
| Develop an understanding of and apply proportionality | Distinguish between situations that are proportional or not and use proportions to solve problems. Solve percent problems; discounts, simple interest, taxes, tips and percents of increase or decrease. Solve problems involving similar figures. Graph proportional relationships and identify the unit rate as the slope of the related linear function.  | In class activities, homework | Quizzes, Unit Tests | Big Ideas Math Green |
| Develop an understanding of and use formulas to determine surface areas and volumes of three-dimensional shapes | Justify and apply formulas for surface area and volume of pyramids, prisms, and cylinders. Use formulas to find surface areas and volumes of three-dimensional composite shapes. | In class activities, homework | Quizzes, Unit Tests | Big Ideas Math Green |
| Develop an understanding of operations on all rational numbers and solving linear equations. | Use and justify the rules for adding, subtracting, multiplying, dividing and finding the absolute value of integers. Add, subtract, multiply and divide integers, fractions, and terminating decimals, and perform exponential operations with rational bases and whole number exponents including solving problems in everyday contexts. Formulate and use different strategies to solve one-step and two-step linear equations, including equations with rational coefficients. Use the properties of equality to represent an equation in different ways and to show that two equations are equivalent in a given context. | In class activities, homework | Quizzes, Unit Tests | Big Ideas Math Green |
| Geometry and Measurement | Determine how changes in dimensions affect the perimeter, area, and volume of common geometric figures and apply these relationships to solve problems. Predict the results of transformations and draw transformed figures, with and without the coordinate plane. Identify and plot ordered pairs in all four quadrants of the coordinate plane. Compare, contrast, and convert units of measure between different measurement systems. | In class activities, homework | Quizzes, Unit Tests | Big Ideas Math Green |
| Number and Operations | Express rational numbers as terminating or repeating decimals. Solve non-routine problems by working backwards. | In class activities, homework | Quizzes, Unit Tests | Big Ideas Math Green |
| Data Analysis | Evaluate the reasonableness of a sample to determine the appropriateness of generalizations made about the population. Construct and analyze histograms, stem-and-leaf plots, and circle graphs. | In class activities, homework | Quizzes, Unit Tests | Big Ideas Math Green |
| Probability | Determine the outcome of an experiment and predict which events are likely or unlikely, and if the experiment is fair or unfair. | In class activities, homework | Quizzes, Unit Tests | Big Ideas Math Green |