

# Algebra, Functions, and Data Analysis 2014 - 2015

Instructor: Mrs. Jen Nesler

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School Phone #: (540) 289 – 3100

**Textbook:** Algebra, Functions, & Data Analysis: A Virginia Course, The Consortium for Foundation Mathematics.

**Course Description:** Within the context of mathematical modeling and data analysis, students will study functions and their behaviors, systems of equations, probability, experimental design and implementation, and analysis of data. Data will be generated by practical applications arising from science, business, and finance labs. Students will solve problems that require the formulation of linear, quadratic, exponential, or logarithmic equations or a system of equations.

## Course Outline:

Unit 1: Linear Equations

Unit 2: Systems of Equations

Unit 3: Quadratic Functions

Unit 4: Exponential Functions

Unit 5: Probability

Unit 6: Statistics

## Materials:

- ✓ 3-Ring Notebook & Loose Leaf Paper - Each student will be required to organize all material from class and finished homework in this binder
- ✓ 4 Notebook Dividers - Each student will place 4 dividers in their binders labeled: **Warm Up, Class Notes, Labs/Homework, Tests/Quizzes**. The student is responsible for placing the correct material in the correct section.
- ✓ **Pencil ONLY!** – All work needs to be completed in pencil **only!** **I will not grade assignments completed in pen.** (This includes quizzes, tests, projects, and graded assignments)
- ✓ Calculator - We have a classroom set of Casio CFX-9850GC Plus graphing calculators to be used during class. It is suggested, **NOT required**, students buy their own calculator for work completed outside of class. All work completed in this class may be done by hand or using a scientific calculator.

## Class Rules and Expectations:

- ✓ Classroom Rules
  - ★ Stay On Task – Work on proper assignments.
  - ★ Be Respectful – Be quiet and pay attention so you and others can learn.
  - ★ Be Ready to Learn – Have all material and assignments ready.
  - ★ Electronics/Cell Phones Only Allowed With Given Permission
- ✓ Attendance: If a student is absent from class it is their responsibility to find out what they missed. **All assignments due the day the student is absent will be due the day they return to school.** If a student is absent on the day of a test/quiz, he or she may either take the test/quiz the day he or she returns or may schedule a time with me before, after school, or during Blazer Block. The

assignment **must be made up within 5 days of the absence** or points will be taken off for each day after.

- ✓ Late Work – For each class day the assignment is late (days this class meets), a letter grade will be taken off until the assignment is turned in. All students should complete **ALL** work on time.
- ✓ Tardy Policy: Follows the school wide policy. Students are to be in class when the bell rings.
- ✓ Bullying will **NOT** be tolerated in this classroom. See student handbook for consequences.

### Grading:

The students will earn points for each assignment they complete. Students should keep all graded work for proof they completed the assignment. Students can determine their grade by adding up their total number of points and dividing by the total possible points. The following is an example of the possible points that can be earned each nine weeks. These are **only approximations!!!** Extra credit will be given throughout the year.

Homework/Participation (40 @ 10 pts)	400 pts	A: 100% – 90
Class Work/Labs	50 pts	B: 89%– 80
Quizzes (9 @ 20 pts)	180 pts	C: 79% – 70
Tests/Projects (3 @ 100 pts)	+ 300 pts	D: 69% – 60
	930 pts	F: 59% and Below

Homework Policy – Homework will be assigned. Students are responsible for completing all homework assignments. I will check each day for completeness unless otherwise stated. To receive full credit on homework, **all problems must be attempted and work must be shown for each problem.** Part of your homework grade is keeping a neat and organized notebook. There will be notebook checks throughout the year.

Tests/Quizzes/Projects – Expect a quiz each week on the material covered. A unit test will be given after completing each unit. Projects will be given throughout the year when appropriate.

Labs/Experiments/Data Collection– Students will be responsible for completing in-class labs and experiments that go along with the unit we are studying. Students will also be responsible for collecting any necessary data. Data collection may take place in the classroom or outside of the classroom.

Homework assignments and upcoming Test/Quiz/Lab information can be found at <http://webfc.rockingham.k12.va.us/~jnesler/>

### Extra Help:

Please feel free to contact me at school at 289-3100 or email me at [jnesler@rockingham.k12.va.us](mailto:jnesler@rockingham.k12.va.us). If I am unavailable, I will return your call. Math Lab will be available every morning 7:45 – 8:15 and after school on Tuesday – Thursday 2:50 – 3:15 for help. I am also available before school and after school to provide addition help or for making up missed work. Please make prior arrangements with me to make sure I am available to meet with you. Please make sure your child takes advantage of this opportunity.

Daily assignments and all grades will be posted on PowerSchool. I will do my best to have PowerSchool updated by Fridays at 3pm.

# AFDA Remind 101 Access:

This school year I will be trying out a new website service called Remind 101. Remind is a one-way text messaging and email system that will allow me to contact you and your child to remind you of homework assignments or upcoming tests/quizzes/projects after school hours. All personal information will remain confidential and I will **NEVER** have access to your phone number or your child's phone number through this service. I will **NEVER** send out any information through this system that is not already mentioned in class. This service will not be used to assign additional homework that was not given in class nor to inform students of quizzes/tests/projects that were not mentioned in class. You and your child **DO NOT** have to sign up for this service. There will be no penalty for not signing up. You may sign up for this service at any time during the school year or choose to opt out at any time as well. Standard text messaging rates apply when using this service. If you would like additional information on Remind 101 please visit the website: <https://www.remind.com/>

If you and your child are interested in using Remind 101 this year please follow the instructions below. You can add as many phone numbers or email addresses that you would like these reminders sent to!

## How to sign up for Mrs. Nesler's AFDA (1st) messages:

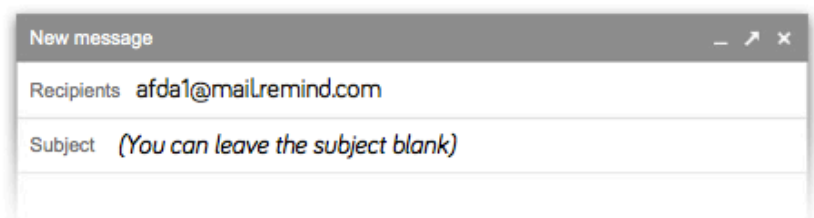


To receive messages via text, text @afda1 to (540) 217-4704. You can opt-out of messages at anytime by replying, 'unsubscribe @afda1'.



\*Standard text message rates apply.

Or to receive messages via email, send an email to [afda1@mail.remind.com](mailto:afda1@mail.remind.com). To unsubscribe, reply with 'unsubscribe' in the subject line.



## **Algebra, Functions, & Data Analysis Standards Of Learning (SOLs)**

- AFDA.1 The student will investigate and analyze function (linear, quadratic, exponential, and logarithmic) families and their characteristics. Key concepts include
- continuity;
  - local and absolute maxima and minima;
  - domain and range;
  - zeros;
  - intercepts;
  - intervals in which the function is increasing/decreasing;
  - end behaviors; and
  - asymptotes.
- AFDA.2 The student will use knowledge of transformations to write an equation, given the graph of a function (linear, quadratic, exponential, and logarithmic).
- AFDA.3 The student will collect data and generate an equation for the curve (linear, quadratic, exponential, and logarithmic) of best fit to model real-world problems or applications. Students will use the best fit equation to interpolate function values, make decisions, and justify conclusions with algebraic and/or graphical models.
- AFDA.4 The student will transfer between and analyze multiple representations of functions, including algebraic formulas, graphs, tables, and words. Students will select and use appropriate representations for analysis, interpretation, and prediction.
- AFDA.5 The student will determine optimal values in problem situations by identifying constraints and using linear programming techniques.
- AFDA.6 The student will calculate probabilities. Key concepts include
- conditional probability;
  - dependent and independent events;
  - addition and multiplication rules;
  - counting techniques (permutations and combinations); and
  - Law of Large Numbers.
- AFDA.7 The student will analyze the normal distribution. Key concepts include
- characteristics of normally distributed data;
  - percentiles;
  - normalizing data, using z-scores; and
  - area under the standard normal curve and probability.
- AFDA.8 The student will design and conduct an experiment/survey. Key concepts include
- sample size;
  - sampling technique;
  - controlling sources of bias and experimental error;
  - data collection; and
  - data analysis and reporting.

To the Parent/Guardian:

Please read and discuss this material with your son/daughter. It is very important to me, as the instructor, that you and your child understand the expectations and requirements of this course. If you have any questions, concerns, or would like to set up a conference please feel free to contact me via email or call me at Spotswood. I appreciate your support and look forward to a very successful year!

Sincerely,  
Jen Nesler

**Students and Guardians, please sign to indicate that you have read the syllabus and understand the expectations and requirements for this class.**

Student's Name Printed \_\_\_\_\_

Student's Signature \_\_\_\_\_

Date \_\_\_\_\_

Guardian's Signature \_\_\_\_\_

Date \_\_\_\_\_

**Remind 101 Permission** Please check one of the following:

\_\_\_\_\_ I give my child permission to sign up and use Remind 101

\_\_\_\_\_ I do not wish to give my child permission to sign up and use Remind 101

Guardians, when I do need to contact you, what would be the best way/time to contact you?

\_\_\_\_\_ Phone \_\_\_\_\_

\_\_\_\_\_ Email \_\_\_\_\_

**\*\*\*PLEASE SIGN AND RETURN THIS PAGE BY AUGUST 22, 2014\*\*\***