Metropolitan Business Academy
Algebra 1 Course Syllabus

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Course Overview:
Algebra is all about finding, creating, and analyzing patterns. We work on expanding our number sense, changing how we see math all around us, and training our brains to be able to solve problems in real life.

Course Standards:

1. Problem Solving and Critical Thinking in Mathematics	Students can apply processes to define, evaluate and solve complex problems in math.
2. Clear and Effective Communication in Mathematics	Students can clearly convey meaning and ideas about math to varied audiences using different modes.
3. Abstract and Quantitative Reasoning	Students make sense of quantities and their relationships in problem situations.
4. Statistics and Probability	Students can interpret and apply statistics and probability concepts to analyze data, justify conclusions, and make inferences.
5. Algebraic Mechanics	Students can simplify algebraic expressions; solve problems involving algebraic equations; reason, describe, and analyze quantitatively using units and number systems.
6. Functions	Students can use a variety of functions to model real world applications and solve problems using multiple representations.
7. Solving Problems in 2 and 3 Dimensions	Students can use constructions, postulates, theorems, and formulae to model real world situations and solve problems in 2 and 3 dimensions.

21st Century Competencies:

1. Problem Solving and Critical Thinking
2. Accessing and Analyzing Information
3. Communication and Collaboration
4. Creativity and Innovation
5. Initiative, Leadership and Accountability
6. Citizenship and Responsibility

Performance Task Chart:

Title	Description	Content Standards	21st Century Competencies
Mastery Tests #1 - 8*	Mastery tests are skills-based assessments. Students demonstrate their mastery of mathematical skills specific to the unit of study.	#1 - 7	#1
Showcase #1 - 3	Embedded assessments require students to apply mathematical skills in real-world situations. Students demonstrate a deeper comprehension of the mathematical principles on EAs.	#1 - 7	#1, 3
Problems of the Month*	The Problem of the Month is a non-routine, complex problem that allows for multiple avenues of problem solving. Students write up their solution and how they arrived at and checked that solution	#1 - 7	#1, 3, 4, 5
PBAT (Performance-Based Assessment Task)*	Students practice for a PBAT as a midterm task by solving and explaining a Problem of the Month with a partner in a 2 - 5 minute video that will be evaluated in the 3 areas of mathematical thinking by other teachers.	#1 - 7	#1 - 4

*indicates major task

Portfolio Criteria:

Each trimester, you will gather examples of your best work for your portfolio.

Trimester 1	Trimester 2	Trimester 3

Mastery Tests
1. Fundamentals of Algebra
2. Solving Equations
3. Solving Inequalities
    ● Calculator Skills 1
 	
Showcase
● Patterns and Equations
	Mastery Tests
	4. Functions
	5. Graphs of Functions
	    ○ Calculator Skills 2
	
	Showcase
	● Representations of Functions
	
	Practice PBAT (for midterm)
		Mastery Tests
		6. Fundamentals of Linear Equations & Functions
		7. Graphing Linear Equations & Inequalities
		8. Systems of Equations
		
		Showcase
		● Linear Functions and Equations

Evidence of Revision: ● Error Analysis for MT 1 - 3 ● Problem of the Month revisions	Evidence of Revision: ● Error Analysis for MT 4 & 5 ● Problem of the Month revisions	Evidence of Revision: ● Error Analysis for MT 6 - 8 ● Problem of the Month revisions
Teacher for a Problem Presentation (2) & TFAP Reflection	Teacher for a Problem Presentation (2) & TFAP Reflection	Teacher for a Problem Presentation (2) & TFAP Reflection
Problems of the Month (2)	Problems of the Month (1)	Problems of the Month (2)

How You Will Be Graded

On Powerschool you will see mastery codes, a green checkmark, a 0, or a dash. A green checkmark means the item is complete and has been handed in. A zero (0) and an orange dot means the item has not been turned in or completed, including absences. A dash (---) might appear in place of a green checkmark or other codes if you use certain types of cell phones, so we recommend checking your powerschool on a computer. The mastery code meanings are below. Your goal is to reach competent or above on all major tasks for the year.

Mastery Language Abbreviations	Mastery Language	Progression to Meeting Standard	Standard Grading Equivalent
XE	Exemplary	Exceeds Standard with Distinction	100
CO-XE	Competent-Exemplary	Exceeds Standard (revise for exemplary)	93
CO	Competent	Meets Standard (revise for exemplary)	85
EM	Emerging	Approaches Standard (needs revision)	70
NY	Novice	Not Yet (needs revision)	60
NE	No Evidence	No Evidence of Work Yet (needs completion/revise)	50

How to Learn Math

Math is all about making mistakes! When you learn a new skill, you practice it, you're tested on it, you make mistakes, you revise those mistakes, practice some more, and are tested on it again. We love mistakes in math -- it's proof of your progress! We expect you to revise all major tasks until you meet or exceed standards.

Daily Math Class Routines

- Class Openers **-** A "Do Now" will be on the board at the beginning of every class. Your goal is to complete the questions on the sheet of paper provided before the timer goes off. There is one Do Now sheet collected every 2 weeks. If you are tardy and miss the Do Now, you can't make it up. Your Do Now sheet should be the first sheet in your math binder.

- Classwork **-** During class time, we will be working on skills in a variety of ways: group work, independent practice, inquiry tasks, and games. You are expected to fully participate and complete all given classwork. We will take notes in a spiral-bound notebook that should live in your math binder. Your notes should be open on your desk so that you can use them to help you with classwork. Sometimes you will get a Mastery Quiz. These will be pre-tests of the skills on the upcoming Mastery Tests and Embedded Assessments. They will be recorded in Powerschool with a mastery code to give you and your parents a sense of your current mastery level of the content.

- <u>Homework</u> **-** Homework will be assigned every class period and checked at the beginning of the next class period, after the Do Now. The problems are meant to help you practice throughout the week as you learn new material, as well as review material you have already learned. Completing homework is an important student skill that you are expected to develop in order to be successful in college. Homework is numbered by the unit and then which homework it is in that unit. For example, Homework #4.2 is Unit 4's 2nd homework assignment.

- <u>Problems of the Month</u> - You will have approximately 15 minutes for 4 to 5 class periods (two weeks) to work on the Problem of the Month (POTM). If you do not turn it in on the due date, you will not receive credit for it. Instead, you may complete and turn in the make-up Problem of the Month, but you will not be given extra class time to work on it. At any time you may choose to attempt the Honors Problem of the Month, even if you are not completing an Honors Contract.

Honors Contract

At the beginning of the year, you have the opportunity to sign an honors contract, agreeing to complete specific work in order to receive honors credit for Algebra 1. The requirements are:

1. You must complete all honors Problems of the Month
2. You must correctly complete half of the Challenge Problems on Mastery Tests #1 - 8
3. You may not miss more than 5 homework assignments per trimester
4. You must attempt all challenge problems on homework assignments

At the end of each trimester, you must set up a brief, 15-minute meeting with your teacher to check-in on your honors contract progress.

Website

Our class's website is: http://algebra1atMBA.weebly.com. It lists our weekly schedule, has a homework blog with links to the homework, copies of the Problem of the Month, and extra practice. If you lose your homework or POTM, you can always get a new copy from the website. If you are absent, you should check out the weekly schedule and HW blog to see what you missed.

Revision

If you do not meet or exceed the standard on skill, you may revise it after taking the following steps:
1. Completing an Error Analysis sheet (for Mastery Tests)
2. Showing evidence of studying (completing old homeworks, re-working classworks)
3. Attending an After-School Support session with your teacher.