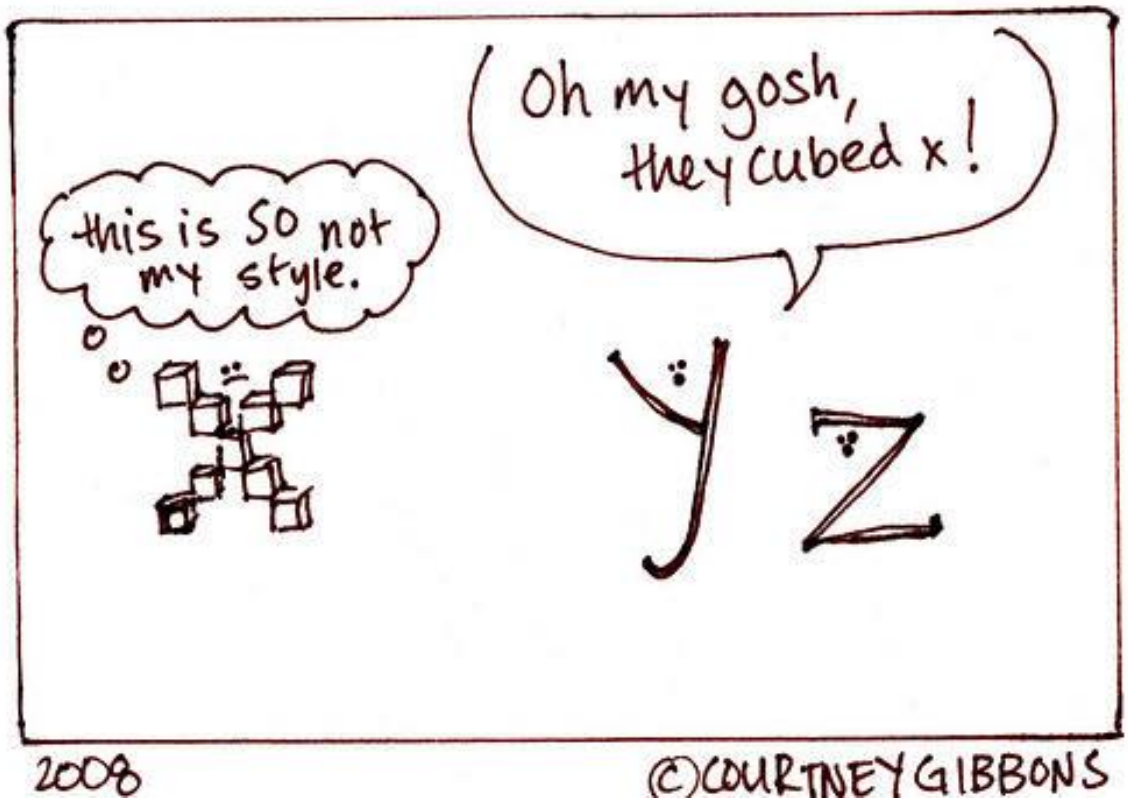
Algebra 2

Quarter Four



"The pure mathematician, like the musician, is a free creator of their world of ordered beauty."

-Bertrand Russell

Overview

Lessons will be given in class. You will have multiple mini lessons throughout the week. If you are struggling with a concept, it is your responsibility to review the lessons and ask questions. I will answer any questions you have during the lesson but after that we will follow the "three before me" principle. You must ask three of your peers before you ask me for help.

Math Journal: I encourage use of your Algebra II journal during lessons and work time. I advise you to use your journal to take notes during lessons and to work on assignments. Make sure it is neat and organized. Any and all important information from the lessons should be kept in this journal. You will be able to use your journals for formative assessments (quizzes).

General Guidelines:

Problem Sets – 40% of your grade is based on completing each homework assignment. **Homework Assignments Are Recommended Problems For Learning (and are required to pass this class!!).** It is recommended that you do the assignments or similar math problems for you to understand and retain the concepts. Use the work period to ask for help from your peers and teacher. **You will submit pictures of your assignments through Google Classroom by Sunday night (11:59pm) each week. In addition, you will only be able to turn in assignments from a given chapter up until the date of the relevant assessment. You will only receive full credit if you show your work!**

Quizzes/Assessments – Quizzes/Assessments make up 30% of your grade and you must complete each quiz/assessment prior or on the date it is scheduled. **Remember: you can always use your notebook on quizzes and exams.** You must make at least 70% to "pass" the quiz/assessment. If you do not pass a quiz, you may retest using a similar exam during my tutoring hours. You may also correct quizzes for half the remaining credit.

Final Assessment – The final will make up 30% of your grade. You will not be able to make up the final exam. That is why it is important that you record the notes from the lessons and you do the suggested homework assignments. Practice the concepts in order to master them. **Your final project is also a part of your final assessment grade.**

Lessons: Linear Systems and Matrices, and Quadratic Functions and Factoring

Big Ideas

1) Graphing and solving radical functions
2) Graphing, solving, and performing operations with rational functions and expressions
3) Writing and graphing equations of conic sections
4) Reviewing the basic trigonometric functions

Vocabulary

1) Exponential Function
2) Logarithm
3) Inverse/Joint Variation
4) Rational Function
5) Conic Sections
6) Circle, Ellipse, Parabola, Hyperbola

Individual work

Guiding question 7:

How do we model population growth in Biology and compound interest in Finance? Is there any special growth rates? How do we graphically represent large ranges?

1) ***7.2 Graph Exponential Decay Functions***

____ p.489 #'s 3 through 23 (odds), 30

2) ***7.3 Use Functions Involving e***

____ p.495 #'s 3 through 49 (odds)

3) ***7.4 Evaluate Logarithms and Graph Logarithmic Functions***

____ p. 503 #'s 3 through 43 (odds)

4) ***7.5 Apply Properties of Logarithms***

____ p. 510 #'s 3 through 42 (odds)

Assessment: Chapter 7 (May 4th)

Guiding question 8:

How can we simplify difficult functions to fully understand the visual representation via a coordinate plane? How can we then apply this technique to translate real world problems into formulas?

5) ***8.1 Model Inverse and Joint Variation***

____ p. 555 #'s 3-19 (odds)

6) ***8.2 Graph Simple Rational Functions***

____ p. 561 #'s 3-33 (odds)

7) ***8.4 Multiply and Divide Rational Expressions***

____ p. 577 #'s 3-39 (odds)

8) 8.5 Add and Subtract Rational Expressions

____ p.586 #'s 3-29 (odds)

9) 8.6 Solve Rational Equations

____ p.593 #'s 5-25 (odds)

Assessment: Chapter 8 (May 16th)

Guiding question 9:

What is a conic section? How can we derive relationships between parabolas, circles, ellipses, and hyperbolas? Is there any technology which utilizes these ideas?

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10) 9.1 Apply the Distance and Midpoint Formulas

____ p.617 #'s 3-29 (odds)

11) 9.2 Graph and Write Equations of Parabolas

____ p.623 #'s 3-37 (odds)

12) 9.3 Graph and Write Equations of Circles

____ p. 620 #'s 3-41 (odds)

_____ QUIZ ON LESSONS 9.1-9.3 (May 26th)

13) 9.4 Graph and Write Equations of Ellipses

____ p. 637 #'s 3-33 (odds)

14) 9.5 Graph and Write Equations of Hyperbolas

____ p.645 #'s 3-31 (odds)

_____ QUIZ ON LESSONS 9.4-9.5 (June 5th)

Guiding question 10:

How can we define a relationship between a triangle's sides and its interior angles? How can we use this knowledge to simplify formulas via coordinate transformations? What do trigonometric functions even look like when graphed?

15) 13.1 Use Trigonometry with Right Triangles

____ p.856 #'s 3-27 (odds)

16) 14.1 Graph Sine, Cosine, and Tangent Functions

____ p. 912 #'s 3-23 (all)

Final Assessment Week of June 12th:

_____ Chapter 7, 8, 9, 13.1, 14.1 Final

_____ Final Project (Finished during Week 1)