Foundations for College Algebra – Math 0989
Content Outline, Assignments, and Links

Spring 2017

I. **Review of Real Numbers** (6 Days)

A.) Real Number and its Properties (**CORI 1.1**)

- ***1.1 #2 - #30 Even & #31 - #42 All***
- *Algebra's Power Tools Handout*
- Includes Exponents

B.) Addition, Subtraction, Multiplication, Division of Reals (CORE 1.1)

- ***1.1 #1 - #36 M3***

C.) Order of Operations (**CORE 1.2**)

- ***1.2 #1 - #66 M3 & #75 - #78 All***
- https://sites.google.com/site/harlandclub/Home/math/algebra/orderops

D.) Prime Numbers, Factorizations, and Fractions (**CORE 1.3**)

- *Fraction Fact Sheet Handout*
- ***1.3 #1 - #72 M3***
- *Prime Numbers and Factorizations:* https://sites.google.com/site/harlandclub/Home/math/algebra/arithmetic/prime
- *Fractions:* https://sites.google.com/site/harlandclub/Home/math/algebra/arithmetic/fractions

II. **Linear Equations and Problem Solving** (9 Days)

A.) Solving Linear Equations – One Step (**CORE 2.1**)

- ***2.1 #1 - #51 M3***
- https://sites.google.com/site/harlandclub/Home/math/algebra/solve

B.) Solving Linear Equations – Multi Step (**CORE 2.2**)

- ***2.2 #1 - #54 M3***

C.) Clearing Fractions and Decimals (**CORE 2.3**)

- ***2.3 #1 - #31 Odd***

D.) Solving for a Specific Variable(Formulae) (**CORE 2.4**)

- ***2.4 #1 - #36 M3***

EXAM #1

E.) Problem Solving using Linear Equations (**CORE 2.5**)

- *George Polya's 4 Steps:* http://web.mnstate.edu/peil/M110/Worksheet/PolyaProblemSolve.pdf
- http://faculty.salisbury.edu/~dccathcart/MathReasoning/Polya.html

- ***2.5 #1 - #33 M3***
- *Word Problems:* https://sites.google.com/site/harlandclub/Home/math/algebra/word1var

- *Percent:* https://sites.google.com/site/harlandclub/Home/math/algebra/arithmetic/percents

- *Time-Distance-Rate:* https://sites.google.com/site/harlandclub/Home/math/algebra/word1var/wordprob1varlinear/rtd

III. **Graphing and Functions** (3 Days)

A.) Rectangular (Cartesian) Coordinate System (**CORE 3.1**)

- ***3.1 #1- #25 Odd***
- ***Graphing:*** https://sites.google.com/site/harlandclub/Home/math/algebra/graphline

B.) Rate of Change and Slope (**CORE 3.3**)

- *3.3* ***#5 - #29 Odd***
- https://www.youtube.com/watch?v=bploNzF7cxg

C.) Slope-Intercept Form (CORE 3.4)

- ***3.4 #1-#19 Odd***

D.) Introduction to Functions (**CORE 5.1**)

- ***5.1 #1 - #45 M3***
- ***Functions (videos #1-#4):*** https://sites.google.com/site/harlandclub/Home/math/algebra/fcn

IV. **Polynomials, Operations, Exponents**

A.) Polynomials (**CORE 5.2**)

- ***5.2 #1- #60 M3***
- ***Algebraic Expressions:*** *https://sites.google.com/site/harlandclub/Home/math/algebra/algexpr*

B.) Adding and Subtracting Polynomials (**CORE 5.4**)

- ***5.4 #1- #36 M3***

C.) Laws of Exponents (CORE 5.5)

- ***5.5 #1- #57 M3***
- ***Exponents:*** *https://sites.google.com/site/harlandclub/Home/math/algebra/exp*

D.) Multiplication of Polynomials (**CORE 5.6**)

- ***5.6 #1- #54 M3***
- Multiplication: https://sites.google.com/site/harlandclub/Home/math/algebra/multpoly

Exam #2

V. Factoring: https://sites.google.com/site/harlandclub/Home/math/algebra/factor

A.) The Greatest Common Factor and Factoring by Grouping (CORE 6.1)

- ***6.1 #1 - #75 M3***

B.) Solving Non Linear Equations (**CORE 6.2**)

- ***6.2 #1 - #48 M3***

C.) Factoring Trinomials, *a=1* (**CORE 6.3**)

- ***6.3 #1 - #36 M3***

D.) Factoring Trinomial, $a \neq 1$(**CORE 6.4**)

- ***6.4 #1 - #36 M3***

E.) Factoring Special Forms (**CORE 6.5**)

- ***6.5 #9 - #27 Odd & #37 - #79 Odd***

F.) Factoring Strategy (**CORE 6.6**)

- ***6.6 #1 - #36***

VI. Rational Functions:

A.) Simplifying Rational Expressions (**CORE 7.3**)

- ***7.3 #1 -#48 M3***

B.) Solving Rational Equations (**CORE 7.4**)

- ***7.4 #1 - #24 M3***

VII. Quadratic Functions

A.) Introduction to Radical Notation (**CORE 8.1**)

- ***8.1 #1 - #37 Odd***

B.) Simplifying Radical Expression (**CORE 8.2**)

- ***8.2 #1- #33 M3***

C.) Completing the Square (**CORE 8.3**)

- ***8.3 #37 - #51 Odd***

Exam #3