

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

Fall 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