Reveal Math - Algebra 1: Modules 1-5
Summer Skill Plan

As you transition into Algebra 1, it is essential to reinforce your foundational math skills and prepare for the exciting new algebraic concepts ahead. Maintaining a consistent practice routine over the summer will ensure a smooth start to the new academic year and set you up for continued success in more advanced mathematics.

Throughout your summer engagement with math, remember to utilize available resources to deepen your understanding. Tools like "Learn with an Example" and "Watch a Video" can be incredibly helpful when exploring new topics or revisiting challenging areas.

For your Math summer preparation, focus on strengthening your understanding of key concepts from your previous math courses and begin to familiarize yourself with introductory Algebra 1 topics. This proactive approach will build confidence and competence for the year ahead.

Please complete a SmartScore of at least 70 in each skill area within your assigned skill plan.

You should strive to maintain a strong grasp of core mathematical principles, as they form the bedrock of Algebra 1. Your summer work is a crucial opportunity to review and preview skills, laying a solid groundwork for the demanding curriculum of Algebra 1.

Please complete a SmartScore of at least 70 in each skill area

Suggested Additional Practice

- Review and practice fundamental operations with integers, fractions, and decimals.
- Explore concepts related to expressions, equations, and inequalities.
- Familiarize yourself with basic graphing techniques and properties of linear relationships.
- Engage with word problems that require analytical thinking and problem-solving strategies.
- You should strive to maintain a strong grasp of core mathematical principles.
- Your summer work is a crucial opportunity to review and preview skills, laying a solid groundwork for the demanding curriculum of 8th grade

Please reach out to Mr. Scott @ t.scott@hrs-ken.org if you have any questions as you work through your summer math preparation. Mr. Scott is travelling this summer, so please be patient with a response.

Module 1: Expressions

Lesson 1-1: Numerical Expressions

- Write numerical expressions WTE
- Evaluate numerical expressions involving integers ZFX
- Write numerical expressions for word problems DXD

- **Also consider**
  - Evaluate expressions using exponent rules LRR
  - Evaluate numerical expressions involving rational numbers 8CU

Lesson 1-2: Algebraic Expressions

- Write variable expressions D7K
- Evaluate variable expressions involving integers AZT
- Write variable expressions: word problems BUK

Lesson 1-3: Properties of Real Numbers

- Properties of addition and multiplication TQS

- **Also consider**
  - Properties of equality H8Q
  - Evaluate variable expressions involving rational numbers M9A

Lesson 1-4: Distributive Property

- Distributive property BHL
- Simplify linear expressions using properties HHR
- Simplify variable expressions involving like terms and the distributive property ZXX

Lesson 1-5: Expressions Involving Absolute Value

- Evaluate absolute value expressions 2KN

- **Also consider**
  - Absolute value and opposites KGR

Lesson 1-6: Descriptive Modeling and Accuracy

- Word problems: mixed review Z7P

- **Also consider**
  - Precision QK9

Module 2: Equations in One-Variable

Lesson 2-1: Writing and Interpreting Equations

- Write variable equations YVW

Lesson 2-2: Solving One-Step Equations

- Model and solve one-step equations using algebra tiles JXT
- Solve one-step linear equations TXJ
- Solve one-step linear equations: word problems UXX

Lesson 2-3: Solving Multi-Step Equations

- Model and solve linear equations using algebra tiles GRH
- Solve two-step linear equations QAK
- Solve one-step and two-step linear equations: word problems UFG

- **Also consider**
  - Solve multi-step linear equations 28N

Lesson 2-4: Solving Equations with the Variable on Each Side

- Solve linear equations with variables on both sides 757
- Solve linear equations with variables on both sides: word problems H9G
- Find the number of solutions to a linear equation KBP

- **Also consider**
  - Solve linear equations: mixed review DN6
  - Create linear equations with no solutions or infinitely many solutions PUK
  - Solve linear equations: complete the solution EVP

Lesson 2-5: Solving Equations Involving Absolute Value

- Solve absolute value equations 9LF
- Graph solutions to absolute value equations KXA

- **Also consider**
  - Write absolute value equations from graphs BXF

Lesson 2-6: Solving Proportions

- Solve proportions 2ZL
- Weighted averages: word problems 2TQ

- **Also consider**
  - Solve proportions: word problems 8ES
  - Rate of travel: word problems 208

Lesson 2-7: Using Formulas

- Rearrange multi-variable equations WSJ
- Multi-step problems with unit conversions EHV

Module 3: Relations and Functions

Lesson 3-1: Representing Relations

- Relations: convert between tables, graphs, mappings, and lists of points RBG
- Domain and range of relations 2CG
- Identify graphs: word problems AB9

- **Also consider**
  - Identify independent and dependent variables N55

Lesson 3-2: Functions

- Identify functions VLL
- Evaluate a function JFB
- Interpret functions using everyday language U98

- **Also consider**
  - Identify functions: vertical line test HLX

Lesson 3-3: Linearity and Continuity of Graphs

- Identify linear functions from graphs and equations VMQ
- Identify linear functions from tables F5G

Lesson 3-4: Intercepts of Graphs

- Find values using function graphs QCG

- **Also consider**
  - Domain and range of linear functions: word problems AW7

Checkpoint opportunity (Modules 1-3)

- Checkpoint: Function concepts HWA
- Checkpoint: Units and quantities CBX

Module 4: Linear and Nonlinear Functions

Lesson 4-1: Graphing Linear Functions

- Graph a linear function 2ZW
- Standard form: graph a line from an equation U6U
- Graph a horizontal or vertical line BTK

- **Also consider**
  - Standard form: find x- and y-intercepts 8SN

Lesson 4-2: Rate of Change and Slope

- Identify linear functions from tables F5G
- Find the slope from two points MD5
- Find the slope from a table GUP

- **Also consider**
  - Find the slope of a graph E7D

- Find a missing coordinate using slope 507
- Rate of change: tables PLA
- Rate of change: graphs BNH

Lesson 4-3: Slope-Intercept Form

- Write a linear equation from a slope and y-intercept 8X5
- Linear equations in standard form: solve for y VQB
- Slope-intercept form: graph an equation UWB

- **Also consider**
  - Equations of horizontal and vertical lines K8H
  - Interpret the slope and y-intercept of a linear function RPQ

Lesson 4-4: Transformations of Linear Functions

- Transformations of linear functions C8G
- Describe linear transformations HPC

- **Also consider**
  - Compare linear functions: tables, graphs, and equations GD7

Lesson 4-5: Arithmetic Sequences

- Arithmetic sequences ALG
- Write variable expressions for arithmetic sequences 5VF

Lesson 4-6: Piecewise and Step Functions

- Graph piecewise-defined functions 86G

- **Also consider**
  - Evaluate piecewise-defined functions 86S

Lesson 4-7: Absolute Value Functions

- Graph an absolute value function TD2
- Transformations of absolute value functions: translations, reflections, and dilations QVW

- **Also consider**
  - Complete a function table: absolute value functions 2DH
  - Domain and range of absolute value functions: graphs NV7
  - Domain and range of absolute value functions: equations FCY

Module 5: Creating Linear Equations

Lesson 5-1: Writing Equations in Slope-Intercept Form

- Write a linear equation from a slope and a point YMZ
- Write a linear equation from two points VKL
- Write a linear function: word problems HWM

- **Also consider**
  - Slope-intercept form: write an equation from a graph 9GW
  - Slope-intercept form: write an equation from a table SSE

Lesson 5-2: Writing Equations in Standard and Point-Slope Forms

- Point-slope form: write an equation PPE
- Write linear equations in standard form ESP
- Write an equation for a parallel or perpendicular line 5SH

- **Also consider**
  - Linear equations: solve for y T5F
  - Slopes of parallel and perpendicular lines ADB
  - Point-slope form: graph an equation F8H
  - Point-slope form: write an equation from a graph LBX

Lesson 5-3: Scatter Plots and Lines of Fit

- Interpret a scatter plot 8BS
- Write equations for lines of best fit Y2S

- **Also consider**
  - Outliers in scatter plots EG5
  - Interpret lines of best fit: word problems AF2

Lesson 5-4: Correlation and Causation

- Correlation and causation KPG

Lesson 5-5: Linear Regression

- Calculate correlation coefficients E8T
- Analyze a regression line of a data set 8D8

- **Also consider**
  - Match correlation coefficients to scatter plots FQ7

Lesson 5-6: Inverses of Linear Functions

- Find the inverse of a linear function VME
- Find values of inverse functions from tables USE
- Find values of inverse functions from graphs 7HN

Checkpoint opportunity

- Checkpoint: Linear modeling U7N