West Virginia Alternate Academic Achievement Standards

Transitions for Seniors

Number and Quantity – The Real Number System

Extend the properties of exponents to rational exponents.

1 Express quantities to the appropriate precision of measurement (e.g., measure a pencil to the nearest inch). A.M.TMS.1

2 Choose the appropriate unit of measurement (e.g., determine when to use feet/inches/meter, cups/gallons/liter, ounces/pounds/gram). A.M.TMS.2

Algebra – Seeing Structure in Expressions

Write expressions in equivalent forms to solve problems.

3 Solve an algebraic expression involving arithmetic operations to represent a real-world problem (e.g., Jan has $10. She buys a loaf of bread for $2 and a gallon of milk. She now has $5. What is the cost of the milk?) A.M.TMS.3

Understand the connections between proportional relationship, lines, and linear equations.

4 Recognize and represent proportional relationships between quantities on graphs. In real world problem situations, decide whether two quantities are in a proportional relationship (e.g. If Dan walks one block each morning, how many blocks does he walk in one week?). A.M.TMS.4

5 Given a table of values depicting a proportional relationship or an arithmetic sequence, determine missing values. A.M.TMS.5

6a Given a real world problem situation, write, read, and/or solve one-step addition and subtraction equations for an unknown whole number and/or decimal money amounts, with a variable standing for the unknown (e.g., $20- c = $13 How much did I spend?). (Focus on money) A.M.MTS.6A

6b Given a one-step addition or subtraction equation with two unknowns, create true statements. (e.g., given x + y = 7, create statements such as 2 + 5 = 7 and 3 + 4 = 7) Instructional Note: Limit to whole numbers. A.M.MTS.6B

6c Solve simple one-step word problems involving multiplication that have whole numbers or fractional remainders and understand what the fractional remainder means (e.g., Molly and her friend have 13 cookies and want to equally distribute the cookies between them, how much would each person get and how many are left over?). A.M.MTS.6C

6d Match two-step word problems posed with whole numbers and having whole-number answers using the four operations with the correct symbolic representation (e.g., two times a number plus one equals five matches 2 x b + 1 = 5). A.M.MTS.6D

Algebra – Creating Equations

Create equations that describe numbers or relationships.

7a Given a real-world problem situation, write, read, and/or solve one-step addition and subtraction equations for an unknown number, with a variable standing for the unknown (e.g., $8.50 + c = $12). A.M.TMS.7A

7b Create linear equations and inequalities in one variable and use them to solve problems. A.M.TMS.7B

8 Create linear equations in two variables to represent relationships between quantities and graph equations on coordinate axes with labels and scales. A.M.TMS.8

9 Demonstrate an understanding of terms such as “at least” and “fewer than” in solving realworld problems. A.M.TMS.9

10 Solve multi-step word problems, represent these problems using formulas with a letter standing for the unknown quantity. Assess the reasonableness of answers. A.M.TMS.10

Algebra – Reasoning with Equations and Inequalities

Solve equations in one variable.

11 Demonstrate each step in solving a one or twostep equation. A.M.TMS.11

12 Given choices and use of a calculator, solve quadratic equations in one variable by inspection (e.g., for $x^2 = 49$). A.M.TMS.12

Solve systems of equations.

13 Interpret the meaning of the intersection of the two graphs. Instructional Note: Include linear and polynomial functions. A.M.TMS.13

Represent and solve equations and inequalities graphically.

14 With the assistance of a graphing calculator and visual cue cards as needed, graph the solutions to a linear inequality in two variables as a halfplane (excluding the boundary in the case of a strict inequality) and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding halfplanes. A.M.TMS.14

Functions – Interpreting Functions

Understand the concept of a function.

15 Using a calculator and a visual cue card of function rules that describe proportional relationships, solve real-world problems (e.g., Unit Cost x Number of Items = Total Cost). A.M.TMS.15

	Interpret functions that arise in applications in terms of the context. 16 Determine the common ratio in arithmetic sequences (e.g., recognize that “down 2” would describe the common ratio for a sequence such as 20, 18, 16, 14, 12… and write it as -2.) A.M.TMS.16 17 Interpret the parameters in a linear function in terms of a context. Instructional Note: Limit to linear functions. A.M.TMS.17 18 Given a linear function represented by a table, determine the rate of change and find missing value (e.g., A.M.TMS.18 19 Given a graph, distinguish between linear functions and exponential functions. A.M.TMS.19
	Analyze representations of functions. 20a Given a function rule and the input value, determine the output. A.M.TMS.20A 20b Given graphical representations determine if the graph is a straight line or not a straight line. (Staying within Quadrant I.) A.M.TMS.20B 21 Demonstrate an understanding of an increase or decrease on a graph. A.M.TMS.21 22 With the assistance of a graphing calculator and visual cue cards as needed, graph functions expressed symbolically and show key features of the graph. Instructional Note: Focus on linear functions. A.M.TMS.22 23 Given two tables representing linear real-world function, determine which is increasing at a greater rate. A.M.TMS.23 24 Compare and contrast two functions represented in different tables or graphs (e.g., Store A’s Discount Table and Store B’s Discount Table) to answer questions. A.M.TMS.24
Functions - Building Functions	**Build a function that models a relationship between two quantities.** 25 From a given list recognize linear and exponential functions, including arithmetic sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table). A.M.TMS.25 26 Given a real-world situation, complete a given table to answer questions. For example: A.M.TMS.26
Geometry - Geometric Measuring and Dimension	**Explain volume formulas and use them to solve problems.** 27 Measure quantities accurately (e.g., follow a recipe). A.M.TMS.27
Geometry – Expressing Geometric Properties with Equations	**Use measurement to solve problems.** 28 Given coordinates, identify the geometric shapes using proper terminology. A.M.TMS.28 29 Find perimeters and areas of squares and rectangles to solve real-world problems. A.M.TMS.29

Use coordinates and determine area and perimeter.

30 Use scale models to demonstrate an understanding of geometric concepts. A.M.TMS.30

- a Sketch a scale model using graph paper as needed (e.g., the layout of their house). A.M.TMS.30A
- b Interpret a scale model (e.g., locate specific rooms on a diagram of the school). A.M.TMS.30B

Statistics and Probability - Interpreting Categorical & Quantitative Data

Summarize, represent, and interpret data on two categorical and quantitative variables.

31 Represent data of frequency using tally charts in real world situations. A.M.TMS.31

32 Sort data or objects according to characteristics, similarities, and/or associations. Interpret frequencies in the context of the data (e.g., after surveying students, regarding their favorite ice cream flavor, answer related questions). A.M.TMS.32

33 Represent data with dot plots on a number line. A.M.TMS.33

34 Given a dot plot, identify the maximum value, the minimum value, and the mode. A.M.TMS.34

35 Interpret differences in graphs of data sets. A.M.TMS.35

36 In real world situations, distinguish between the cause and the effect. A.M.TMS.36

Statistics and Probability - Interpreting Categorical & Quantitative Data

Understand and evaluate random processes underlying statistical experiments

37 Approximate the likelihood of an event based on its probability (e.g., given a weather forecast, determine if it is likely to rain) and make appropriate real-world choices. A.M.TMS.37