


# MATH STANDARDIZED STUDENT SYLLABI

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# MATHEMATICS

## Level 0.0 - 1.9 • (Beginning Literacy)

### Literacy Completion Point A

Student: _____	ID #: _____	Entry Date: _____
Institution: _____	Date Achieved: _____	
Site: _____	Instructor(s): _____	

Program Number: 9900000  
 Course Number: 9900001  
 CIP Number: 1532.010200

**PLEASE CHECK CORRESPONDING BOX AS EACH STANDARD IS ACHIEVED.**

### STANDARD 1

**Demonstrate pre-computational skills**

Date: \_\_\_\_\_ Instructor: \_\_\_\_\_

The student will be able to:

- 01.01 Identify and write number symbols 0 – 100.
- 01.02 Read words for numerals 1 – 20.
- 01.03 Count and associate numbers with quantities, including, recognizing correct number sequencing.
- 01.04 Understand basic concepts, e.g., more, less, same as, above, below, between, in, out, over, and under.

### STANDARD 2

**Show awareness of the ways numbers are represented and used in the real world**

Date: \_\_\_\_\_ Instructor: \_\_\_\_\_

The student will be able to:

- 02.01 Use the first ten ordinal numbers.
- 02.02 Understand and apply the concepts of counting by 2s, 5s, and 10s.

### STANDARD 3

**Demonstrate reasonable proficiency in computing addition and subtraction problems**

Date: \_\_\_\_\_ Instructor: \_\_\_\_\_

The student will be able to:

- 03.01 Understand and explain the effect of addition on whole numbers.
- 03.02 Solve without regrouping 1-and 2-digit addition problems in both vertical and horizontal notation.
- 03.03 Understand and explain the effect of subtraction on whole numbers.
- 03.04 Solve without regrouping 1-and 2-digit subtraction problems in both vertical and horizontal notation.
- 03.05 Select the appropriate operation to solve specific problems involving addition and subtraction of whole numbers.
- 03.06 Add 1-digit whole numbers to solve real-world problems using appropriate methods of computing, e.g., manipulatives, mental mathematics, and paper and pencil.
- 03.07 Add a column of three 1-digit numbers.
- 03.08 Recall addition facts using a number line, table, or memory.
- 03.09 Recall subtraction facts using a number line, table, or memory.

### STANDARD 4

**Measure quantities in the real world and use the measures to solve problems**

Date: \_\_\_\_\_ Instructor: \_\_\_\_\_

The student will be able to:

- 04.01 Use customary\* units, such as, inches, pounds, degrees, and cups, to measure real quantities, e.g., measure to the nearest inch on a 12-inch ruler.
- 04.02 Use and describe basic measurement concepts, e.g., length, weight, digital and analog time, temperature, and capacity.
- 04.03 Select and use an appropriate unit of measure.
- 04.04 State the date by month, day, and year using a calendar.
- 04.05 Tell time to the hour and half-hour.

\*Customary refers to the system of measurement used in the United States.

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## STANDARD 5

### Identify two and three dimensional shapes

Date: \_\_\_\_\_ Instructor: \_\_\_\_\_

The student will be able to:

05.01 Identify a square, circle, rectangle, and triangle.

## STANDARD 6

### Solve money problems

Date: \_\_\_\_\_ Instructor: \_\_\_\_\_

The student will be able to:

06.01 Identify coins and currency of different values.

06.02 Identify sets of coins equivalent to 25 cents or less.

06.03 Read and write numerals for money.

06.04 Use addition, without regrouping, to solve real-world problems involving two purchases totaling no more than 50 cents.

06.05 Recognize monetary symbols.

Administrator: \_\_\_\_\_ Instructor: \_\_\_\_\_

Signatures verify achievement of LITERACY COMPLETION POINT A Effective: \_\_\_\_/\_\_\_\_/\_\_\_\_

# MATHEMATICS

## Level 2.0 - 3.9 • (Beginning Basic Education)

### Literacy Completion Point B

Student: _____	ID #: _____	Entry Date: _____
Institution: _____		Date Achieved: _____
Site: _____		Instructor(s): _____

Program Number: 9900000

Course Number: 9900001

CIP Number: 1532.010200

PLEASE CHECK CORRESPONDING BOX AS EACH STANDARD IS ACHIEVED.

### STANDARD 7

- Show awareness of the ways numbers are represented and used in the real world

Date: \_\_\_\_\_ Instructor: \_\_\_\_\_

The student will be able to:

- 07.01 Associate whole numbers less than 100 to their respective spoken names, written names, and numerals.
- 07.02 Understand the relative size of whole numbers between 0 and 100.
- 07.03 Use objects to represent whole numbers, commonly-used fractions, or mixed numbers and relate these numbers to real-world situations, e.g., 1/4 pizza, 1/2 sandwich, and 1 and 1/2 pies.

### STANDARD 8

- Understand number systems

Date: \_\_\_\_\_ Instructor: \_\_\_\_\_

The student will be able to:

- 08.01 Understand and apply the concepts of counting by 2s, 3s, 5s, 10s, 25s, and 50s.
- 08.02 Understand place value for hundreds, tens, ones, tenths, and hundredths.
- 08.03 Classify a number as even or odd.

### STANDARD 9

- Compute addition and subtraction problems

Date: \_\_\_\_\_ Instructor: \_\_\_\_\_

The student will be able to:

- 09.01 Understand and explain the inverse (opposite) relationship between addition and subtraction.
- 09.02 Add whole numbers to solve real-world problems using appropriate methods of computing; such as, manipulatives, mental mathematics, and paper and pencil.
- 09.03 Subtract whole numbers to solve real-world problems using appropriate methods of computing; such as, manipulatives, mental mathematics, and paper and pencil.

### STANDARD 10

- Compute multiplication and division problems

Date: \_\_\_\_\_ Instructor: \_\_\_\_\_

The student will be able to:

- 10.01 Understand and explain the effect of multiplication on whole numbers.
- 10.02 Identify multiplication terminology and symbols.
- 10.03 Recall multiplication facts using a table or memory.
- 10.04 Multiply a 2-digit number by a 1-digit number without regrouping, and multiply three 1-digit numbers.
- 10.05 Understand and explain the effect of division on whole numbers.
- 10.06 Identify division terminology and symbols.
- 10.07 Understand the inverse relationship between multiplication and division.
- 10.08 Recall division facts using memory or a table.
- 10.09 Divide a 2-digit number by a 1-digit number where the quotient is a whole number (no remainder).

### STANDARD 11

- Apply math skills in word problem applications

Date: \_\_\_\_\_ Instructor: \_\_\_\_\_

The student will be able to:

- 11.01 Recognize clue words for choosing operations to be used to solve real-world problems, e.g., add, plus, total, sum, subtract, difference, left, remaining, multiply, times, several, divide, each, and per.
- 11.02 Explain the reasoning steps in solving real-world problems by:
  - determining the question
  - identifying the information given
  - deciding on the operation
  - working and checking
  - making certain the answer is logical
- 11.03 Recognize that all math has only four operations: addition, subtraction, multiplication, and division.
- 11.04 Select the appropriate operation to solve specific problems involving addition, subtraction, multiplication, and division.

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## STANDARD 12

### Demonstrate estimation skills

Date: \_\_\_\_\_ Instructor: \_\_\_\_\_

The student will be able to:

- 12.01 Round numbers to 10s and 100s.
- 12.02 Use rounding techniques to estimate the solution to a real-world addition or subtraction problem; then determine the actual result through computation.

## STANDARD 13

### Use units of measurement

Date: \_\_\_\_\_ Instructor: \_\_\_\_\_

The student will be able to:

- 13.01 Identify the larger of two customary\* measures.
- 13.02 Identify common units of customary\* measurements for length, capacity, weight, and temperature.
- 13.03 Identify, select, and use appropriate tools from the customary\* system for measuring length, capacity, weight, and temperature.
- 13.04 Tell time on the half-hour, quarter hour, and in minutes.

\*Customary refers to the system of measurement used in the United States.

## STANDARD 14

### Recognize a wide variety of patterns, relations, and functions

Date: \_\_\_\_\_ Instructor: \_\_\_\_\_

The student will be able to:

- 14.01 Recognize symbols and concepts of equal (=) and unequal ( $\neq$ ) and less than (<) and greater than (>).
- 14.02 Identify the next item of a pattern or number of a number sequence.
- 14.03 Identify the missing item of a pattern or number of a number sequence.

## STANDARD 15

### Describe and identify three-dimensional shapes

Date: \_\_\_\_\_ Instructor: \_\_\_\_\_

The student will be able to:

- 15.01 Identify and describe the characteristics of basic 3-dimensional shapes.

## STANDARD 16

### Solve money problems

Date: \_\_\_\_\_ Instructor: \_\_\_\_\_

The student will be able to:

- 16.01 Count coins and currency.
- 16.02 Determine equivalent amounts of up to five dollars using coins and paper currency.
- 16.03 Determine change from a one-dollar bill.
- 16.04 Determine equivalent amounts of up to ten dollars using coins and paper currency.
- 16.05 Solve real-world problems involving change after purchases with a ten-dollar bill.
- 16.06 Solve real-world problems involving comparison shopping for purchases of less than ten dollars.

Administrator: \_\_\_\_\_ Instructor: \_\_\_\_\_

Signatures verify achievement of LITERACY COMPLETION POINT B Effective: \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_

# MATHEMATICS

## Level 4.0 - 5.9 • (Intermediate Low Basic Education)

### Literacy Completion Point C

Student: _____	ID #: _____	Entry Date: _____
Institution: _____	Date Achieved: _____	
Site: _____	Instructor(s): _____	

Program Number: 9900000

Course Number: 9900001

CIP Number: 1532.010200

PLEASE CHECK CORRESPONDING BOX AS EACH STANDARD IS ACHIEVED.

### STANDARD 17

Show awareness of the ways whole numbers are represented and used in the real world

Date: \_\_\_\_\_ Instructor: \_\_\_\_\_

The student will be able to:

- 17.01 Identify whole numbers containing up to 7-digit numeration (millions, thousands, hundreds, tens, and ones).
- 17.02 Associate whole numbers to their respective spoken names, written names, and numerals.
- 17.03 Understand the relative size of whole numbers.

### STANDARD 18

Demonstrate proficiency in adding and subtracting whole numbers

Date: \_\_\_\_\_ Instructor: \_\_\_\_\_

The student will be able to:

- 18.01 Add with and without regrouping a 1-, 2- or 3-digit number to a 3-digit number given in vertical notation.
- 18.02 Add with and without regrouping three or four 3-digit numbers given in vertical notation.
- 18.03 Add with and without regrouping three or four 4-digit numbers given in vertical notation.
- 18.04 Subtract with and without regrouping two 3-digit numbers given in vertical notation.
- 18.05 Subtract with and without regrouping two 5-digit numbers given in both vertical and horizontal notation.
- 18.06 Borrow where the minuend is a digit followed by three zeros and regrouping is necessary, e.g., 6000 - 495.

### STANDARD 19

Multiply whole numbers

Date: \_\_\_\_\_ Instructor: \_\_\_\_\_

The student will be able to:

- 19.01 Multiply a 2-digit number by a 2-digit number.
- 19.02 Multiply a 3-digit number by a 1-, 2-, or 3-digit number.
- 19.03 Multiply a 4-digit number by a 1-, 2-, or 3-digit number.
- 19.04 Demonstrate proof method for multiplication, e.g.,  $64 \times 27 = 27 \times 64$ .

### STANDARD 20

Divide whole numbers

Date: \_\_\_\_\_ Instructor: \_\_\_\_\_

The student will be able to:

- 20.01 Divide 3- or 4-digit numbers by a 1-digit number where the quotient is with or without a remainder.
- 20.02 Divide 3- or 4-digit numbers by a 2-digit number where the quotient is with or without a remainder.
- 20.03 Divide by a 3-digit number where the quotient is with or without a remainder.
- 20.04 Prove long-division problems.

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## STANDARD 21

### Demonstrate proficiency in number sense, concepts, and operations involving fractions

Date: \_\_\_\_\_ Instructor: \_\_\_\_\_

The student will be able to:

- 21.01 Associate commonly used fractions ( $\frac{1}{2}$ ,  $\frac{1}{4}$ ,  $\frac{1}{3}$ ,  $\frac{3}{4}$ , and  $\frac{2}{3}$ ) to their respective spoken names, written names, and numerals.
- 21.02 Understand the relative size of commonly used fractions.
- 21.03 Understand that commonly used fractions can be represented in other equivalent forms, such as, decimals and percents ( $\frac{1}{2} = 50\% = .5$ ).
- 21.04 Write numbers as fractions.
- 21.05 Understand the concepts of numerators and denominators.
- 21.06 Identify proper and improper fractions and mixed numbers.
- 21.07 Convert from mixed numbers to improper fractions.
- 21.08 Convert from improper fractions to mixed numbers.
- 21.09 Reduce common fractions to their lowest common denominators.
- 21.10 Convert fractions to equivalent fractions.
- 21.11 Add fractions with common denominators.
- 21.12 Subtract fractions with common denominators.
- 21.13 Multiply proper fractions.
- 21.14 Multiply proper fractions by whole numbers.

## STANDARD 22

### Demonstrate proficiency with number sense, concepts, and operations involving decimals

Date: \_\_\_\_\_ Instructor: \_\_\_\_\_

The student will be able to:

- 22.01 Associate decimals - including tenths, hundredths, and thousandths - to their respective spoken names, written names, and numerals.
- 22.02 Understand the relative size of decimals.
- 22.03 Understand that decimals can be represented in other equivalent forms, e.g., fractions.
- 22.04 Convert common fractions to decimals.
- 22.05 Convert decimals to common fractions.
- 22.06 Add and subtract decimals.
- 22.07 Select the appropriate operation to solve specific problems involving decimals.
- 22.08 Understand the relationship between money and decimals.
- 22.09 Solve real-world problems involving decimals.

## STANDARD 23

### Use estimation to problem solve and compute

Date: \_\_\_\_\_ Instructor: \_\_\_\_\_

The student will be able to:

- 23.01 Use and justify different estimation strategies in a real-world problem situation, and determine the reasonableness of results of calculations in a given problem situation.
- 23.02 Solve real-world problems with the help of estimating measurements including length, time, weight, temperature, money, perimeter, area, and volume, and compare the results to actual measurements.
- 23.03 Round a whole number less than one million to any designated place.
- 23.04 Round fractions and mixed numbers to the nearest whole numbers.
- 23.05 Use rounding techniques to estimate the solution to a real-world addition or subtraction measurement problem; then determine the actual result.

## STANDARD 24

### Demonstrate proficiency in measuring quantities and solving problems related to measurement

Date: \_\_\_\_\_ Instructor: \_\_\_\_\_

The student will be able to:

- 24.01 Write abbreviations for length, weight, and capacity measurements in the customary\* system.
- 24.02 Identify equal measures defined in different units.
- 24.03 Measure to the nearest  $\frac{1}{4}$  inch on a 12-inch ruler.
- 24.04 Solve measurement problems in the customary\* system using addition or subtraction with no conversion.
- 24.05 Determine temperature using a Fahrenheit or Celsius thermometer.
- 24.06 Determine capacity by measuring quantities in teaspoons, tablespoons, cups, pints, quarts, gallons, and liters.
- 24.07 Recognize, use, measure, and interpret linear dimensions and geometric shapes.
- 24.08 Use and interpret measurement instruments, such as, rulers, scales, gauges, and dials.
- 24.09 Interpret diagrams, illustrations, and scale drawings.
- 24.10 Interpret spatial relationships, e.g., above, below, nearer, farther, and equidistant.
- 24.11 Interpret measurements in recipes.
- 24.12 Convert equivalent measurements, e.g., cups to quarts.

\*Customary refers to the system of measurement used in the United States.

*Continued on next page*

## STANDARD 25

### Demonstrate proficiency in solving problems involving algebra

Date: \_\_\_\_\_ Instructor: \_\_\_\_\_

The student will be able to:

- 25.01 Describe a variety of patterns and relationships through models; such as, manipulatives, tables, graphs, and rules.
- 25.02 Translate a problem from words to a number symbol sentence, e.g., six plus one equals seven to  $6 + 1 = 7$ .
- 25.03 Recognize simple algebraic formulas, e.g.,  $1 + 3 = x$ .
- 25.04 Recognize simple consumer formulas, e.g., units times price = cost.

## STANDARD 26

### Interpret data from graphs, charts, and maps

Date: \_\_\_\_\_ Instructor: \_\_\_\_\_

The student will be able to:

- 26.01 Solve problems by generating, collecting, organizing, displaying, and analyzing data using bar graphs, circle graphs, line graphs, pictographs, and charts.
- 26.02 Interpret data in charts, tables, plots, graphs, and maps.
- 26.03 Understand and find averages (means).
- 26.04 Locate a point on a highway map.

## STANDARD 27

### Calculate differences to solve problems encountered in daily living

Date: \_\_\_\_\_ Instructor: \_\_\_\_\_

The student will be able to:

- 27.01 Calculate reported differences, e.g., minutes spent working on two jobs.
- 27.02 Calculate the differences between two hourly wages.
- 27.03 Determine the net cost of groceries after deducting the value of coupons.
- 27.04 Calculate the difference between figures from a summarizing table.
- 27.05 Use hourly and daily wage rates to calculate the difference in earnings.
- 27.06 Determine the difference between lengths of business hours on weekdays and weekends.
- 27.07 Calculate the savings between two specific subscription rates.
- 27.08 Calculate the amount of increase using figures from a bar graph.
- 27.09 Determine daily earnings based on hourly rate and number of hours worked.
- 27.10 Use figures from a comparison table to calculate increases.
- 27.11 Total the amount of fines accrued for several driving violations.

## STANDARD 28

### Apply arithmetic operations to information contained in printed materials

Date: \_\_\_\_\_ Instructor: \_\_\_\_\_

The student will be able to:

- 28.01 Use an order form to determine the total cost of a purchase.
- 28.02 Determine the total for an order after calculating the cost of two items and sales tax (using a tax table).
- 28.03 Determine the total cost of multiple items ordered from a menu, including, one item having multiple quantities.
- 28.04 Use an advertisement to determine the total cost of several items in different quantities.

## STANDARD 29

### Demonstrate proficiency in consumer math skills

Date: \_\_\_\_\_ Instructor: \_\_\_\_\_

The student will be able to:

- 29.01 Develop a personal budget for a set income.
- 29.02 Plan for major purchases, e.g., a car or a refrigerator.
- 29.03 Interpret information or directions to locate consumer goods, e.g., newspaper ads and yellow pages.
- 29.04 Identify and use methods to purchase goods and services; including, catalogs, order forms, and related information.
- 29.05 Interpret advertisements, labels, charts, letters, articles, price tags, or other information in selecting goods and services.
- 29.06 Write personal checks or money orders to purchase goods and services.
- 29.07 Complete a deposit and withdrawal form.

Administrator: \_\_\_\_\_ Instructor: \_\_\_\_\_

Signatures verify achievement of LITERACY COMPLETION POINT C Effective: \_\_\_\_/\_\_\_\_/\_\_\_\_

# MATHEMATICS

## Level 6.0 - 8.9 • (Intermediate High Basic Education)

### Literacy Completion Point D

Student: _____	ID #: _____	Entry Date: _____
Institution: _____	Date Achieved: _____	
Site: _____	Instructor(s): _____	

Program Number: 9900000  
 Course Number: 9900001  
 CIP Number: 1532.010200

PLEASE CHECK CORRESPONDING BOX AS EACH STANDARD IS ACHIEVED.

### STANDARD 30

Understand theories related to numbers

Date: \_\_\_\_\_ Instructor: \_\_\_\_\_

The student will be able to:

- 30.01 Understand and apply basic number theory concepts; including, primes, composites, factors, and multiples.
- 30.02 Understand commutative and associative properties, e.g.,  $6 \times 2 = 2 \times 6$ ;  $1 + 3 + 4 = 3 + 1 + 4$ .

### STANDARD 31

Demonstrate proficiency in solving problems involving geometry

Date: \_\_\_\_\_ Instructor: \_\_\_\_\_

The student will be able to:

- 31.01 Understand the concepts of spatial relationships, symmetry, reflections, congruency, and similarity.
- 31.02 Recognize and apply geometric formulas for perimeter and area of squares, rectangles and triangles, and surface area for cubes and rectangular solids.
- 31.03 Represent and apply a variety of strategies and geometric properties and formulas for 2 - and 3 - dimensional shapes to solve real-world and mathematical problems.

### STANDARD 32

Demonstrate proficiency in number sense, concepts, and operations involving fractions

Date: \_\_\_\_\_ Instructor: \_\_\_\_\_

The student will be able to:

- 32.01 Associate fractions to their respective spoken names, written names, and numerals.
- 32.02 Locate fractions on a number line.
- 32.03 Understand the relative size of fractions.
- 32.04 Identify concrete and symbolic representations of fractions in real-world situations.
- 32.05 Add whole numbers, fractions, and mixed numbers with and without common denominators.
- 32.06 Subtract whole numbers, fractions, and mixed numbers with or without regrouping.
- 32.07 Multiply common fractions, mixed numbers, and whole numbers.
- 32.08 Divide fractions.
- 32.09 Divide whole numbers, fractions, and mixed numbers.
- 32.10 Perform multiple operations using common fractions, mixed numbers, and whole numbers.
- 32.11 Select the appropriate operation to solve specific problems involving fractions.
- 32.12 Solve real-world problems involving fractions.

### STANDARD 33

Demonstrate proficiency in number sense, concepts, and operations involving decimals

Date: \_\_\_\_\_ Instructor: \_\_\_\_\_

The student will be able to:

- 33.01 Locate decimals on a number line.
- 33.02 Order a sequence of decimal numbers from smallest to largest.
- 33.03 Multiply a decimal by a whole number and another decimal.
- 33.04 Divide a decimal by a whole number and a decimal.
- 33.05 Divide a whole number by a decimal.
- 33.06 Convert mixed numbers to decimals or fractions.
- 33.07 Select the appropriate operation to solve specific problems involving decimals.
- 33.08 Solve real-world problems involving decimals.

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## STANDARD 34

### Demonstrate proficiency in the mastery of number sense, concepts, and operations involving ratios and proportions

Date: \_\_\_\_\_ Instructor: \_\_\_\_\_

The student will be able to:

- 34.01 Associate ratios to their respective spoken names, written names, and numerals.
- 34.02 Understand the concept of ratio and proportion.
- 34.03 Identify concrete and symbolic representations of ratios in real-world situations.
- 34.04 Understand that ratios can be represented in other equivalent forms.
- 34.05 Select when to solve specific problems by using ratios or proportions.
- 34.06 Solve real-world problems involving ratios and proportions.
- 34.07 Demonstrate the process of cross-multiplying to solve proportion.

## STANDARD 35

### Demonstrate proficiency in the mastery of number sense, concepts, and operations involving percents

Date: \_\_\_\_\_ Instructor: \_\_\_\_\_

The student will be able to:

- 35.01 Associate percents to their respective spoken names, written names, and numerals.
- 35.02 Understand the relative size of percents.
- 35.03 Identify concrete and symbolic representations of percents in real-world situations.
- 35.04 Understand that percents can be represented in a variety of equivalent forms.
- 35.05 Convert between fractions, decimals, and percents.
- 35.06 Find a percent of a number.
- 35.07 Find what percent one number is of another.
- 35.08 Find the total when a percent is given.
- 35.09 Solve real-world problems involving percents.
- 35.10 Determine sales tax on a purchase when given the tax rate.

## STANDARD 36

### Demonstrate proficiency in number sense, concepts, and operations involving integers

Date: \_\_\_\_\_ Instructor: \_\_\_\_\_

The student will be able to:

- 36.01 Associate integers to their respective spoken names, written names, and numerals.
- 36.02 Identify concrete and symbolic representations of integers to real world situations, e.g., temperature.
- 36.03 Locate integers on a number line.
- 36.04 Understand the relative size of integers.
- 36.05 Add, subtract, multiply, and divide integers.
- 36.06 Solve simple problems by applying the algebraic order of operations.
- 36.07 Select the appropriate operation to solve specific problems involving integers.
- 36.08 Solve real-world problems involving integers.
- 36.09 Find squares of numbers 1 – 20.
- 36.10 Find square roots of perfect squares.
- 36.11 Write algebraic expressions, e.g.,  $2x$ ;  $2m - 10$ .
- 36.12 Solve one-step equations involving any of the mathematical operations, e.g.,  $x + 9 = 27$ ;  $x/4 = 3$ ;  $x - (-4) = 2$ .

## STANDARD 37

### Demonstrate proficiency in number sense, concepts, and operations involving geometry

Date: \_\_\_\_\_ Instructor: \_\_\_\_\_

The student will be able to:

- 37.01 Recognize and understand the basic properties of the following geometric shapes in two and three dimensions: circle, square, rectangle, triangle, parallelogram, pentagon, cube, rectangular solid, pyramid, cone, and cylinder.
- 37.02 Recognize types of angles (acute, obtuse, straight, and right).
- 37.03 Recognize types of triangles (equilateral, right, scalene, and isosceles).
- 37.04 Know the number of degrees in a triangle and a quadrilateral.
- 37.05 Use appropriate geometric vocabulary (parallel, perpendicular, similar, and congruent) to write a description of a figure or a picture composed of geometric figures.
- 37.06 Recognize and apply geometric formulas for perimeter, area, and circumference.
- 37.07 Recognize and apply geometric formulas for volume of three-dimensional shapes including cubes, rectangular solids, and cylinders.
- 37.08 Represent and apply a variety of strategies and geometric properties and formulas for 2- and 3-dimensional shapes to solve real-world and mathematical problems.

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## STANDARD 38

### Use estimation skills to problem solve and compute

Date: \_\_\_\_\_ Instructor: \_\_\_\_\_

The student will be able to:

- 38.01 Use estimation strategies to predict results and to check the reasonableness of data.
- 38.02 Use estimates to solve real-world problems of length, perimeter, area, mass, volume, and capacity.
- 38.03 Use estimates to solve real-world problems of money, time, and temperature.
- 38.04 Use rounding techniques to estimate the solution to a real-world addition or subtraction measurement problem; then determine the actual result.
- 38.05 Use a variety of strategies estimating lengths, widths, time intervals, and money, and compare them to actual measurements.
- 38.06 Solve real-world and mathematical problems with the help of estimating measurements, e.g., length, time, weight and mass, temperature, money, perimeter, area, and volume in either the customary\* system or in the metric system.

\*Customary refers to the system of measurement used in the United States.

## STANDARD 39

### Demonstrate proficiency in measuring quantities and solving problems related to measurement

Date: \_\_\_\_\_ Instructor: \_\_\_\_\_

The student will be able to:

- 39.01 Identify the customary\* measures most appropriate for a given situation.
- 39.02 Convert within the customary\* system of measures for length, weight, or capacity, e.g., yards, feet, inches, tons, pounds, ounces, cups, pints, quarts, or gallons.
- 39.03 Solve linear measurement problems with inches, feet, or yards.
- 39.04 Solve capacity problems with cups, pints, quarts, or gallons.
- 39.05 Solve mass/weight problems with ounces, pounds, or tons.
- 39.06 Identify metric units of measure for length, weight/mass, or capacity (meter, gram, or liter) most appropriate for a given situation.
- 39.07 Associate prefixes used in the metric system with the decimal equivalents (kilo, deci, centi, and milli).
- 39.08 Convert within the metric system measures from one prefix to another.
- 39.09 Solve problems involving units of measure, and convert answers to a larger or smaller unit within either the metric or customary systems\*.
- 39.10 Select and use appropriate instruments, technology, and techniques to measure quantities in order to achieve specified degrees of accuracy in a problem situation.

\*Customary refers to the system of measurement used in the United States.

## STANDARD 40

### Understand and apply theories related to numbers

Date: \_\_\_\_\_ Instructor: \_\_\_\_\_

The student will be able to:

- 40.01 Use number concepts including primes, factors, and multiples to build number sequences.
- 40.02 Use place value concepts of grouping based on powers of 10 (10, 100, 1,000, 10,000, 100,000, and 1,000,000).
- 40.03 Understand the structure of number systems other than the decimal number system (Roman number system).

## STANDARD 41

### Interpret data from graphs, charts, and maps

Date: \_\_\_\_\_ Instructor: \_\_\_\_\_

The student will be able to:

- 41.01 Interpret and compare data from pictographs, circle graphs, bar graphs, and line graphs.
- 41.02 Use data from charts and tables to solve real-world problems, e.g., determine tax on purchases using a sales tax table or calculate tax from a withholding tax schedule or income tax schedule.
- 41.03 Understand and apply the concepts of mean and median.
- 41.04 Use a scale to measure distance on a map.
- 41.05 Use given information and a time zone map to calculate arrival time according to a given time zone.
- 41.06 Use a map showing time zones to determine the time in one location given the specified time in another.

## STANDARD 42

### Demonstrate proficiency in consumer math skills

Date: \_\_\_\_\_ Instructor: \_\_\_\_\_

The student will be able to:

- 42.01 Calculate and compare the unit prices for different sizes of food containers and for different brands using a calculator or pencil and paper.
- 42.02 Use the sales tax rate to calculate sales tax and total cost of a purchase.
- 42.03 Compute discounts and sale prices.
- 42.04 Interpret interest and interest-earning savings plans.
- 42.05 Use the required percentage down payment rate and the total purchase price to calculate the actual amount of down payment and balance to be financed on long-term purchases.
- 42.06 Calculate a checkbook balance from a recorded register using a calculator or paper and pencil.
- 42.07 Interpret bank statements and computer-generated banking receipts.

Administrator: \_\_\_\_\_

Instructor: \_\_\_\_\_

Signatures verify achievement of LITERACY COMPLETION POINT D Effective: \_\_\_\_/\_\_\_\_/\_\_\_\_