Integrated Math Learning Targets

What follows is what a student in Integrated Math should know and be able to do by the end of each semester. It is broken up by unit of study and also includes what portion of the two textbooks, ***Math Matters 1(MM), Consumer Economics and Personal Finance (CE) is*** used in each unit. Since mathematics is cumulative in nature, many learning targets are expected to be used not only in the unit where they are introduced, but throughout the course. This list is published as a courtesy to all interested learners, and is not intended for use outside of this specific course.

First Semester:

A. Data and Graphs (MM Chapter 1)

1. Interpret data from tables, charts, and census and survey results.
2. Find the measures of central tendencies and the range of a set of data.
3. Interpret and create stem and leaf plots, frequency tables, circle graphs, pictographs, line and bar graphs, and box and whisker plots.
4. Make predictions from each type of graph.
5. Solve a variety of real-world statistic problems.

B. Measurement (MM Chapter 2)

1. Choose an appropriate unit of measure.
2. Convert units of measure.
3. Find the perimeter of polygons.
4. Solve problems using area formulas.
5. Use a formula to solve real –world applications.
6. Read and write ratios in lowest terms to solve problems using proportions.

C. Probability (MM Chapter 10)

1. Find the experimental and theoretical probability of an event.
2. Use a tree diagram to find possible outcomes in a sample space.
3. Use the fundamental counting principle to find the number of outcomes in a sample space.
4. Find the probability of independent and dependent events.
5. Use probability to make predictions.
6. Find the expected value of a probability experiment.
7. Use expected value to determine fairness of games.

D. Reasoning (MM Chapter 11)

1. Use optical illusions to make statements.
2. Determine the truth value of statements.
3. Use inductive reasoning to make and test conjectures.
4. Write conditional statements and identify them as true or false.
5. Identify valid and invalid deductive arguments.
6. Draw Venn diagrams and use them to solve problems.
7. Make a table to solve non-routine problems using logic.
8. Determine the reasonableness of an answer.
9. Solve non-routine problems involving multiple steps and reasoning processes.

E. Real Numbers and Variable Expressions (MM Chapter 3)

1. Add and subtract real numbers using a number line and/or rules.
2. Use rules to multiply and divide signed numbers.
3. Use order of operations to evaluate expressions and solve word problems.
4. Categorize numbers according to sets.
5. Solve problems involving real number properties such as commutative, associative, and distributive properties.
6. Write and evaluate variable expressions.
7. Express numbers in exponential form and scientific notation.
8. Apply the laws of exponents.
9. Calculate squares and square roots.
10. Perform operations on real numbers with and without a calculator.

F. Two- and Three-Dimensional Geometry (MM Chapter 4)

1. Identify and classify 2-dimensional figures.
2. Use a protractor to draw and measure angles.
3. Identify and classify polygons.
4. Identify the faces, edges, and vertices of polyhedron.
5. Identify polyhedron.
6. Identify 3-dimensional figures with curved surfaces.
7. Visualize and represent shapes with nets, isometric, perspective, and orthogonal drawings.
8. Find the surface area and volumes of prisms, cylinders, pyramids, cones, and spheres

Second Semester:

G. Introduction to Equations and Inequalities (MM Chapter 5)

1. Understand equations and find their solutions.
2. Use addition and subtraction to solve equations.
3. Use multiplication and division to solve equations.
4. Solve two step linear equations.
5. Solve an equation by combining like terms.
6. Use formulas to solve problems.
7. Graph the solutions to equations and inequalities on a number line.
8. Solve inequalities with one variable.

H. Equations and Percents (MM Chapter 6)

1. Use proportion to solve problems involving percent.
2. Write equations to solve problems involving percents
3. Solve problems involving discount and sale price.
4. Use proportions and equations to solve tax problems.
5. Calculate simple and compound interest, interest rate, and amount due.
6. Calculate commission, commission rate, and total income.
7. Solve problems involving percent of increase and decrease.

I. Functions and Graphs (MM Chapter 7)

1. Identify points and graph ordered pairs on the coordinate plane.
2. State the domain, range, and whether a relation is a function.
3. Evaluate a function by using a function rule.
4. Find solutions and intercepts of equations.
5. Graph functions.
6. Calculate the slope of a line.
7. Identify slopes as positive, negative, zero, or undefined.
8. Find the slope and y-intercept of a line to write an equation and graph the line using slope-intercept form.
9. Use the Distance Formula and the Pythagorean Theorem to find the distance between two points.
10. Determine whether an ordered pair is a solution to the equation.

J. Relationships in Geometry (MM Chapter 8)

1. Measure and classify angles.
2. Explore the relationships between transversal and angles.
3. Construct copies of segments and angles.
4. Construct angle bisectors and perpendicular bisectors.
5. Determine the number of angles in a polygon.
6. Determine the sum of the interior angles in a polygon.
7. Identify and draw translations, reflections, rotations and tessellations.
8. Identify and use lines of symmetry and rotational symmetry.

K. Polynomials (MM Chapter 9)

1. Write and simplify polynomials in standard form.
2. Add and subtract polynomials.
3. Multiply monomials and solve area problems by multiplying monomials.
4. Solve problems by multiplying a polynomial by a monomial.
5. Factor polynomials by using the greatest common factor.
6. Divide a monomial by a monomial and a polynomial by a monomial.
7. Use a model, picture, or diagram to solve problems involving polynomials.

L. Money Management (CE Chapters 3,4, and 5)

1. Use percent to solve a variety of real-world money management problems.
2. Be able to write a check, deposit slip and keep a checkbook balance.
3. Develop a budget.
4. Understand the different financial services a bank offers.
5. Compute simple and compound interest.
6. Complete state and federal tax forms.
7. Complete an application for a credit card.
8. Read and interpret a credit card statement.

M. Consumer Strategies (CE Chapters 10, 12, 13, 15 and16)

1. Select and finance a home.
2. Compare buying and leasing a car.
3. Plan and budget for a vacation trip.
4. Choose between different insurance plans.
5. Buy a product online.

N. Investment Strategies (CE Chapter 18)

1. Calculate profit or loss from stock market investments.
2. Explain the difference between a 401K, an IRA, and a TSA.
3. Determine the current value of a stock from the newspaper or online.