Math - Grade 6

Idaho Department of Education Content Standards	Objective	Sub Objectives	Task Analysis	Essential Vocabulary	Sample Questions	Suggested Materials and Resources
Cognitive level codes: • B: Memorize • C: Perform procedures • D: Demonstrate understanding • E: Conjecture, generalize, prove • F: Solve non-routine problems, make connections	Bloom's Equivalent • B = Knowledge • C = Comprehension • D = Comprehension • E = Application and Analysis • F = Synthesis	Calculator codes: NO= student MUST NOT have a calculator while completing this item in order to assess this objective. YES= students can use a calculator CN= calculator neutral CR = calculator recommended	**Shaded objectives should be assessed in the classroom, but not included on the ISAT assessment.**			
Standard 1: Number and Operation						
Goal 1.1: Understand and use numbers.	6.M.1.1.1 Compare magnitudes and relative magnitudes of positive rational numbers, including whole numbers through billions, fractions, and decimals. CL: B, C Calc: CN Content Limit: Fraction denominators limited to 2, 3, 4, 5, 6, 8, 10, 12, and 25. Can use mixed numbers. Decimals limited to tenths, hundredths, and thousandths. Numbers may be ordered least to greatest or greatest to least.	• Compare and order positive rational numbers, including whole numbers through billions, fractions, and decimals	• Identify and apply place value in whole numbers through billions • Compare numbers using "<," ">," and "=" • Compare fractions and mixed numbers with like and unlike denominators • Compare and order decimals to the thousandths	rational number • mixed number	• Put the following numbers in order from least to greatest. 3.46 34.6 3.4 3.064 • Put the following numbers in order from greatest to least. 222,212,189 222,314,893 221,213,089 89,349,401 • Use <, >, or = to compare the following: 4/5 __ 2/5; 1/3 __7/15; 4 1/3 __ 2 1/2; 1 7/8 __ 1 4/8; 1.46 __ 1.4; 14.361 __ 14.036	http://nlvm.usu.edu www.coolmath-games.com www.funbrain.com www.aaaknow.com
	6.M.1.1.2 Explain the interrelationship of fractions, decimals, and percents. CL: Calc: Content Limit: Assessed in the classroom, not on the ISAT.	• Explain the interrelationship of fractions, decimals, and percents	• Recognize that fractions, decimals, and percents are parts of a whole number • Illustrate how fractions, decimals, and percents are related • Identify equivalent fractions, decimals, and percents	equivalent fractions	• Write twenty-five hundredths as a fraction, decimal, and percent. • Write three-tenths as a fraction, decimal, and percent.	Prentice Hall Course 1 (2004) Lesson 3-8 and 6-6 Scott Foresman-Addison Wesley (2005) Lesson 3-10 and 7-2 http://nlvm.usu.edu www.coolmath-games.com www.funbrain.com www.aaaknow.com
	6.M.1.1.3 Locate the position of integers on a number line. CL: B Calc: CN Content Limit: Limit numbers between −50 and 50.	• Locate the position of integers on a number line	• Define integer • Place and identify integers on a number line	integer	• Place the following integers on a number line. 5, 9, 3, -6, 0, and -2	Prentice Hall Course 1 (2004) Lesson 10-1 Scott Foresman-Addison Wesley (2005) Lesson 8-1 http://nlvm.usu.edu www.coolmath-games.com www.funbrain.com www.aaaknow.com
	6.M.1.1.4 Convert between decimals and fractions. CL: B, C Calc: NO Content Limit: Fraction denominators limited to 2, 3, 4, 5, 6, 8, 10, 12, 20, and 25. Can use mixed numbers. Decimals to thousandths place.	• Convert between decimals and fractions	• Write a decimal as a fraction or mixed number • Recognize that a fraction bar means to divide the numerator by the denominator • Use division to write a fraction or mixed number as a decimal	mixed number	• Write 0.25 as a fraction. • Write 1/5 as a decimal. • Write 1.25 as a mixed number. • Show three ways to divide one-fifth. (1/5; one divided by five; 1÷5)	Prentice Hall Course 1 (2004) Lesson 3-8 and 6-6 Scott Foresman-Addison Wesley (2005) Lesson 3-10 and 7-2 http://nlvm.usu.edu www.coolmath-games.com www.funbrain.com www.aaaknow.com
	6.M.1.1.5 Apply number theory concepts (prime, composite, prime factorization) and identify common factors and common multiples. CL: B, C Calc: CR Content Limit: Whole numbers less than or equal to 300. Prime factors less than 13. Answer options may be written using exponents.	• Identify prime and composite numbers	• Define prime and composite numbers • Distinguish between prime and composite numbers • Apply divisibility rules	prime • composite • prime factorization • common multiple • common factor • factor tree • division ladder • divisibility rules • exponents	• Tell whether the number is prime or composite. 21 32 17 51 11 • Find the prime factorization of 48. • Use prime factorization to find the common factors of 16 and 30. • State the divisibility rules in your own words. • Compare and contrast the divisibility rules.	Prentice Hall Course 1 (2004) Chapter 3 Scott Foresman-Addison Wesley (2005) Chapter 3 http://nlvm.usu.edu www.coolmath-games.com www.funbrain.com www.aaaknow.com http://www.mathplayground.com/factortrees.html
		• Show and use prime factorization to find common factors and common multiples	• Define prime factorization • Write a number using prime factorization with and without exponents • Demonstrate the use of prime factorization to find common factors • Demonstrate the use of prime factorization to find common multiples			

Math - Grade 6

Idaho Department of Education Content Standards	Objective	Sub Objectives	Task Analysis	Essential Vocabulary	Sample Questions	Suggested Materials and Resources
	6.M.1.1.6 Solve problems using the 4-step process of problem solving (explore, plan, solve, and examine). CL: Calc: Content Limit: Assessed in the classroom, not on the ISAT.	• Solve problems using the 4-step process of problem solving (explore, plan, solve, and examine)	• Solve problems using the 4-step process of problem solving (explore, plan, solve, and examine)		• Use the 4-step plan to solve the following problem. Granola bars cost $2.79 per box. A coupon in last Wednesday's paper will save you $0.55 on two boxes. How much will two boxes of granola bars cost before tax if you use the coupon?	Prentice Hall Course 1 (2004) Lesson 1-6 http://nlvm.usu.edu www.coolmath-games.com www.funbrain.com www.aaaknow.com
	6.M.1.1.7 Describe the use of integers in real-world situations. CL: Calc: Content Limit: Assessed in the classroom, not on the ISAT.	• Describe the use of integers in real-world situations	• Recognize that integers can be positive or negative • Recognize that a negative integer is the opposite of a positive integer • Demonstrate the use of integers in real-world situations		• Use and integer to represent each situation. Earnings of $15 14º F below 0	Prentice Hall Course 1 (2004) Lesson 10-1 Scott Foresman-Addison Wesley (2005) Lesson 8- http://nlvm.usu.edu www.coolmath-games.com www.funbrain.com www.aaaknow.com
	6.M.1.1.8 Use appropriate vocabulary. CL: Calc: Content Limit: Assessed in the classroom, not on the ISAT.	• Use appropriate vocabulary	• Define appropriate vocabulary • Use and understand appropriate vocabulary • Incorporate the use of appropriate vocabulary in speech and writing			www.math.about.com www.mathwords.com
Goal 1.2: Perform computations accurately.	6.M.1.2.1 Recall basic multiplication and division facts from 12 x 12 Times Table. CL: Calc: Content Limit: Assessed in the classroom, not on the ISAT.	• Recall basic multiplication and division facts from 12 x 12 Times Table	• Memorize basic multiplication and division facts from 12 x 12 Times Table			http://nlvm.usu.edu www.coolmath-games.com www.funbrain.com www.aaaknow.com
	6.M.1.2.2 Add, subtract, multiply, and divide whole numbers, decimals, and simple fractions (including unlike denominators). CL: B, C Calc: NO Content Limit: Multiplication items have at most a three-digit number multiplied by a two-digit number. May include multiplication of fractions or fraction and whole number. Division items have at most a three-digit number divided by a two-digit whole number. Items do not include negative numbers. Fraction denominators limited to 2, 3, 4, 5, 6, 8, 10, and 12. Subtraction cannot be a mixed number minus a mixed number requiring regrouping. Fraction division must have a whole number divisor. Expression must be clearly stated.	• Add, subtract, multiply and divide whole numbers, decimals and simple fractions (including unlike denominators).	• Relate the multiplication process to a three-digit number multiplied by a two-digit number • Use estimation to find the quotient of a three-digit number divided by a two-digit number • Convert a whole number to a fraction • Use common denominators when adding or subtracting fractions or mixed numbers • Multiply and divide fractions including mixed numbers • Simplify fraction answers when appropriate • Multiply and divide decimals • Add and subtract decimals	simplify	• Evaluate 432(89) 496/32 65·43 0.574 x 0.03 14.4 ÷ 3.2 0.56 + 0.9 1.8 - 0.09 1/6 + 1/2 13/16 - 1/4 2/9 x 4/8 4/9 ÷ 2/3	Prentice Hall Course 1 (2004) Chapters 1, 4, and 5 http://nlvm.usu.edu www.coolmath-games.com www.funbrain.com www.aaaknow.com
	6.M.1.2.3 Evaluate numerical expressions with whole numbers using the order of operations (excluding exponents). CL: B Calc: NO Content Limit: Operations may include addition, subtraction, multiplication, and division. Grouping symbols may be used and nested two levels at most. Multiplication items may include at most two-digit factors.	• Evaluate numerical expressions with whole numbers using the order of operations (excluding exponents)	• Recognize the different operational and grouping symbols • Memorize the order of operations • Perform operations using nested parentheses • Use the order of operations to evaluate numerical expressions	order of operations • numerical expressions • evaluate • nested parentheses	• Evaluate 30 - 10 x 3 ÷ 5 40 x 0.1 - (9 - 6) $5 - ($1.25 + $0.60) • Solve 4+6-2 (10÷2) +3 and explain each step in your own words.	Prentice Hall Course 1 (2004) Lesson 1-10 Scott Foresman-Addison Wesley (2005) Lesson 1-8 http://nlvm.usu.edu www.coolmath-games.com www.funbrain.com www.aaaknow.com

Math - Grade 6

Idaho Department of Education Content Standards	Objective	Sub Objectives	Task Analysis	Essential Vocabulary	Sample Questions	Suggested Materials and Resources
	6.M.1.2.4 Select and use an appropriate method of computation from mental math, paper and pencil, calculator or a combination of the three. CL: Calc: Content Limit: Assessed in the classroom, not on the ISAT.	• Select and use an appropriate method of computation from mental math, paper and pencil, calculator or a combination of the three	• Decide on an appropriate method of computation • Use the appropriate method of computation		• Choose the appropriate method to solve. 0.3 x 10 7 + 3 + 6 + 4 + 2 +8 + 5 + 5 A package of 25 mechanical pencils costs $5.75. How much does each pencil cost?	http://nlvm.usu.edu www.coolmath-games.com www.funbrain.com www.aaaknow.com
	6.M.1.2.5 Use a variety of strategies to solve real-life problems. CL: C, D Calc: YES Content Limit: Multiplication items may include two-digit factors. Division items may involve a one-digit divisor and a three-digit dividend. Fraction denominators limited to 2, 3, 4, 5, 6, 8, 10, 12, and 25. Decimals limited to thousandths place. Expression should not be stated. The problems could be such that a variety of strategies could be used, but ability to 'Use a variety of strategies' to be assessed in the classroom, not on the ISAT.	• Use a variety of strategies to solve real-life problems	• Identify different problem-solving strategies • Apply an appropriate strategy to a problem		• Monica rides her bike 1.5 miles to school each day. How far does she travel to school and back home? Justify your answer.	http://nlvm.usu.edu www.coolmath-games.com www.funbrain.com www.aaaknow.com
	6.M.1.2.6 Use appropriate vocabulary and notations. CL: Calc: Content Limit: Assessed in the classroom, not on the ISAT.	• Use appropriate vocabulary and notations	• Define appropriate vocabulary • Use and understand appropriate vocabulary • Incorporate the use of appropriate vocabulary in speech and writing			www.math.about.com www.mathwords.com
Goal 1.3: Estimate and judge reasonableness of results.	6.M.1.3.1 Estimate to predict computation results. CL: Calc: Content Limit: Assessed in the classroom, not on the ISAT.	• Estimate to predict computation results	• Incorporate appropriate estimation strategies in order to predict computation results	estimation	• First estimate, then solve. 29 x 13 59 ÷ 19 383 + 223 998 - 450	http://nlvm.usu.edu www.coolmath-games.com www.funbrain.com www.aaaknow.com
	6.M.1.3.2 Explain when estimation is appropriate. CL: Calc: Content Limit: Assessed in the classroom, not on the ISAT.	• Explain when estimation is appropriate	• Distinguish when an exact answer is needed as compared to an estimated answer		• Describe a time when an exact answer is needed as compared to an estimated answer.	http://nlvm.usu.edu www.coolmath-games.com www.funbrain.com www.aaaknow.com
	6.M.1.3.3 Identify whether a given estimate is an overestimate or underestimate. CL: E Calc: NO Content Limit: Estimates will involve addition or subtraction only.	• Identify whether a given estimate is an overestimate or underestimate	• Recognize if an estimate is an overestimate or underestimate	overestimate • underestimate	• In sixth grade classes there are 26, 23, 29, and 25 students. They estimate they need 80 popsicles. Will they have enough? Prove your answer.	Prentice Hall Course 1 (2004) Lesson 1-5 Scott Foresman-Addison Wesley (2005) Lessons 1-5 and 1-6 http://nlvm.usu.edu www.coolmath-games.com www.funbrain.com www.aaaknow.com
	6.M.1.3.4 Use a four-function calculator to solve complex grade-level problems. CL: Calc: Content Limit: Assessed in the classroom, not on the ISAT.	• Use a four-function calculator to solve complex grade-level problems	• Demonstrate how and when to use a calculator			http://nlvm.usu.edu www.coolmath-games.com www.funbrain.com www.aaaknow.com

Math - Grade 6

Idaho Department of Education Content Standards	Objective	Sub Objectives	Task Analysis	Essential Vocabulary	Sample Questions	Suggested Materials and Resources
	6.M.1.3.5 Formulate conjectures and discuss why they must be or seem to be true. CL: Calc: Content Limit: Assessed in the classroom, not on the ISAT.	• Formulate conjectures and discuss why they must be or seem to be true	• Identify numerical patterns • Formulate conjectures • Justify conjectures	conjecture • justify • formulate	• Write the next two terms in the number pattern. 2, 6, 10, 14… 512, 256, 128, 64…	Prentice Hall Course 1 (2004) Lesson 2-1 Scott Foresman-Addison Wesley (2005) Lesson 8-12 http://nlvm.usu.edu www.coolmath-games.com www.funbrain.com www.aaaknow.com
	6.M.1.3.6 Use appropriate vocabulary. CL: Calc: Content Limit: Assessed in the classroom, not on the ISAT.	• Use appropriate vocabulary	• Define appropriate vocabulary • Use and understand appropriate vocabulary • Incorporate the use of appropriate vocabulary in speech and writing			www.math.about.com www.mathwords.com
Standard 2: Concepts and Principles of Measurement						
Goal 2.1: Understand and use U.S. customary and metric measurements.	6.M.2.1.1 Select and use appropriate units and tools to make formal measurements in both systems. CL: B, C Calc: CN Content Limit: Select appropriate units and tools only. Units for length are inches, feet, yards, miles, millimeters, centimeters, and meters. Units for time are seconds, minutes, hours, days, and years. Units for weight are ounces, pounds, tons, grams, and kilograms. Units for volume (capacity) are cups, quarts, gallons, milliliters, and liters. 'Use … tools to make formal measurements' to be assessed in the classroom, not on the ISAT.	• Select and use appropriate units and tools to make formal measurements in both systems	• Select and use appropriate metric units • Select and use appropriate customary units • Select and use appropriate measurement tools	metric system • customary system	• Choose an appropriate metric unit. Distance across the state of Idaho Amount of water in a bathtub Weight of an elephant • Choose an appropriate customary unit. Fuel in a gas tank Height of a desk Weight of a baby chick Time to sharpen a pencil	Prentice Hall Course 1 (2004) Lesson 9-1 and 5-7 Scott Foresman-Addison Wesley (2005) Chapter 10 http://nlvm.usu.edu www.coolmath-games.com www.funbrain.com www.aaaknow.com
	6.M.2.1.2 Apply estimation of measurement to real-world and content problems using standard measuring devices. CL: B, C Calc: CN Content Limit: Assessed in the classroom, not on the ISAT.	• Apply estimation of measurement to real-world and content problems using standard measuring devices	• Correlate the units of measurement to a real life example (e.g. the width of a door is about the same as a yard or a meter) • Apply estimation of measurement to real-world and content problems using standard measuring devices		• Use the metric system to find the approximate weight of a paperclip. • Use the customary system to find the approximate capacity of a can of soda.	Prentice Hall Course 1 (2004) Real World Snapshots-pages 217 and 429 Scott Foresman-Addison Wesley (2005) Chapter 10 http://nlvm.usu.edu www.coolmath-games.com www.funbrain.com www.aaaknow.com
	6.M.2.1.3 Apply understanding of relationships to solve real-world problems related to elapsed time. CL: F Calc: CN Content Limit: Time is limited to ¼, ½, and ¾ hours and listed in fraction form.	• Apply understanding of relationships to solve real-world problems related to elapsed time	• Correlate fractions to time on a clock • Compute elapsed time		• Find the elapsed time between 11:25 a.m. and 2:45 p.m. • School starts at a quarter after 8 am and ends at half past 2. How much time do you spend at school?	Prentice Hall Course 1 (2004) Lesson 4-7 Scott Foresman-Addison Wesley (2005) Lesson 10-5 http://nlvm.usu.edu www.coolmath-games.com www.funbrain.com www.aaaknow.com

Math - Grade 6

Idaho Department of Education Content Standards	Objective	Sub Objectives	Task Analysis	Essential Vocabulary	Sample Questions	Suggested Materials and Resources
	6.M.2.1.4 Given the formulas, find the perimeter or circumference and area of triangles, circles and parallelograms (all kinds). CL: B, C Calc: YES Content Limit: Items may involve measurement, using a grid, or using a formula. Formulas are given within the item. When using a grid, lengths of sides of a figure are limited to whole numbers. The pi symbol (π) will be used. Answer choices will be numerical only (e.g., answer 43.96, not 14π). Items will not provide area or circumference and then require determining radius or diameter.	• Given the formulas, find the perimeter or circumference and area of triangles, circles and parallelograms (all kinds)	• Choose the appropriate formula for the situation • Substitute values into a formula • Recognize that a formula is consistent • Recognize that perimeter/circumference is distance around an object in linear units • Recognize that area is the amount of space in square units	formula • perimeter • area • circumference • parallelogram • pi • radius • base • height • diameter • square units • linear units	• Use the formula C = dπ to find the circumference of a circle with a diameter of 12 meters. • If a rug is 6 ft. long and 5 ft. wide, what is the perimeter and the area of the rug? • Given the formula for a triangle 1/2 b x h, solve b = 12, h= 3.	Prentice Hall Course 1 (2004) Chapter 9 Scott Foresman-Addison Wesley (2005) Chapter 10 http://nlvm.usu.edu www.coolmath-games.com www.funbrain.com www.aaaknow.com
	6.M.2.1.5 Convert units of measurement within each system in one-step problems (e.g., quarts to gallons and gallons to quarts). CL: B, C Calc: CN Content Limit: Conversion within systems only (not between). Customary length units are inches, feet, and yards; weight units are ounces and pounds; and capacity units are cups, pints, quarts, and gallons. Customary conversions must be given within item. Time units are seconds, minutes, hours, days, and weeks. Metric prefixes include milli-, centi-, and kilo- using base units of meter, gram and liter. Items should be set in real-world context.	• Convert units of measurement within each system in one-step problems (e.g., quarts to gallons and gallons to quarts)	• Memorize the units of measurement and their relationship to each other • Use the base ten system to make conversions in the metric system • Multiply or divide to make the conversion		• 3,070 mm = ___ m • 30,000 lbs = ___ t • 8 qts = ___ g • ___ in. = 2 1/2 ft.	Prentice Hall Course 1 (2004) Lesson 9-2 and 5-8 Scott Foresman-Addison Wesley (2005) Chapter 10 http://nlvm.usu.edu www.coolmath-games.com www.funbrain.com www.aaaknow.com
	6.M.2.1.6 Solve problems involving perimeter and area of rectangles. CL: B, C Calc: YES Content Limit: Formulas are not provided.	• Solve problems involving perimeter and area of rectangles	• Memorize the formula for perimeter and area of rectangles • Recognize the formula is the same for all rectangles including squares • Find the perimeter and area in rectangles • Explain the difference between perimeter and area • Apply the appropriate problem-solving strategies		Find the perimeter and area of a rectangle that measures 4 feet by 9 feet. If the perimeter of a rectangle is 36 inches. What is the area? Compare and contrast the difference between area and perimeter.	Prentice Hall Course 1 (2004) Lesson 9-3 Scott Foresman-Addison Wesley (2005) Lesson 10-7, 10-8, and 10-9 http://nlvm.usu.edu www.coolmath-games.com www.funbrain.com www.aaaknow.com
	6.M.2.1.7 Use appropriate vocabulary and notations. CL: B, D Calc: CN Content Limit: Assessed in the classroom, not on the ISAT.	• Use appropriate vocabulary and notations	• Define appropriate vocabulary • Use and understand appropriate vocabulary • Incorporate the use of appropriate vocabulary in speech and writing			www.math.about.com www.mathwords.com
Goal 2.2: Apply the concepts of rates, ratios, and proportions.	6.M.2.2.1 Identify and write ratios and scales (on a map). CL: B, C, Calc: YES Content Limit: 'On a map' does not limit this to a map only. Use real-world situations. Scales in increments of 1, 2, 5, or 10, or consistent with real-world applications such as inches to feet as in a room (1 inch represents 5 feet), centimeters to meters as for a house (1 centimeter represents 2 meters) or inches to miles on earth (1 inch represents 60 miles).	• Identify and write ratios and scales (on a map or model)	• Write ratios in three different ways • Explain a ratio • Apply the use of ratios to real life situations (e.g. raisins to M&Ms in a trail mix) • Identify the scale of a pictorial representation	ratio • scale drawing	• A drama club sells 24 student tickets and 35 adult tickets. Write the ratio of student tickets to adult tickets in three different ways. • Write the following as a ratio. A 4-foot tall model of a 100-foot-tall building.	Prentice Hall Course 1 (2004) Chapter 6 Scott Foresman-Addison Wesley (2005) Chapter 6 http://nlvm.usu.edu www.coolmath-games.com www.funbrain.com www.aaaknow.com
Goal 2.3: Apply dimensional analysis.	No objectives at this grade level.					

Math - Grade 6

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Standard 3: Concepts and Language of Algebra and Functions						
Goal 3.1: Use algebraic symbolism as a tool to represent mathematical relationships.	6.M.3.1.1 Discuss the meaning and use of variables in simple expressions and equations. CL: Calc: Content Limit: Assessed in the classroom, not on the ISAT.	• Discuss the meaning and use of variables in simple expressions and equations	• Define a variable • Define algebraic expression • Distinguish between numerical and algebraic expressions • Distinguish between expressions and equations • Recognize examples of algebraic expressions	variable • algebraic expression • numerical expression • equation		Prentice Hall Course 1 (2004) Lesson 2-2 Scott Foresman-Addison Wesley (2005) Lesson 1-13 http://nlvm.usu.edu www.coolmath-games.com www.funbrain.com www.aaaknow.com
	6.M.3.1.2 Translate simple word statements into algebraic equations. CL: C Calc: CN Content Limit: Whole numbers less than 50. Equations include one operation. May include one or two variables.	• Translate simple word statements into algebraic equations	• Write a simple algebraic equation with appropriate operations using one or two variables from a mathematical situation or phrase		• Write an algebraic equation to solve. I am thinking of a number. If I subtract 15 from it, I will get 25. What is my number? b times 2 3 more than f 12 less than m a number less than 8 55 divided by a number	Prentice Hall Course 1 (2004) Lesson 2-6 Scott Foresman-Addison Wesley (2005) Lesson 1-15 http://nlvm.usu.edu www.coolmath-games.com www.funbrain.com www.aaaknow.com
	6.M.3.1.3 Read and use symbols of "<," ">," and "=" to express relationships. CL: C Calc: CN Content Limit: Use whole numbers less than 50 and expressions with no more than one operation on each side of the relation symbol. May include one variable.	• Read and use symbols of "<," ">," and "=" to express relationships	• Explain the meaning of the symbols "<," ">," and "=" • Use the symbols to compare numerical and algebraic expressions		• Use <, >, or = to complete the statement. 0.041 + 0.009 ___ 0.5	Prentice Hall Course 1 (2004) Lessons 1-5 and 12-3 Scott Foresman-Addison Wesley (2005) Lessons 1-3 and 12-1http://nlvm.usu.edu www.coolmath-games.com www.funbrain.com www.aaaknow.com
Goal 3.2: Evaluate algebraic expressions.	6.M.3.2.1 Use the following properties in evaluating numerical expressions: commutative, associative, identity, zero, inverse, and distributive. CL: B, C Calc: CN Content Limit: Whole numbers less than 100.	• Use the following properties in evaluating numerical expressions: commutative, associative, identity, zero, inverse, and distributive	• Identify the different properties • Explain the different properties • Use the properties to evaluate numerical expressions	commutative property • associative property • distributive property • identity property of multiplication • identity property of addition • zero property of multiplication • inverse property	• Identify and write the correct property, then solve. 4 x (30 - 1) = ___ - 4 5(8 + 12) = 5(8) + __ (12) 8 + __ = 8 25 + 43 = 43 + __ 1 x ___ = 0 19 x ___ = 66 x 19 (a+b) + c = a + (b + c)	Prentice Hall Course 1 (2004) Chapters 1 and 2 Scott Foresman-Addison Wesley (2005) Lessons 1-9 and 1-10 http://nlvm.usu.edu www.coolmath-games.com www.funbrain.com www.aaaknow.com
	6.M.3.2.2 Evaluate simple algebraic expressions using substitution. CL: C Calc: CN Content Limit: Limit numbers to whole numbers less than 100.	• Evaluate simple algebraic expressions using substitution	• Replace variable with given value • Evaluate simple algebraic expressions		• Evaluate where x = 5 and y =4 • 20x - 1 • 12 + x = ___ • 24 - y = ___ • 25 ÷ x= ___	Prentice Hall Course 1 (2004) Lesson 2-2 Scott Foresman-Addison Wesley (2005) Lesson 1-13 http://nlvm.usu.edu www.coolmath-games.com www.funbrain.com
Goal 3.3: Solve algebraic equations and inequalities.	6.M.3.3.1 Solve one-step equations with whole numbers. CL: C Calc: YES Content Limit: Limit to whole number solutions less than 100. Addition, subtraction, multiplication, and division are allowed.	• Solve one-step equations with whole numbers	• Solve one-step equations		• Solve 5n = 40 s - 28 = 12 1/2g = 6 53 = 13 + h	Prentice Hall Course 1 (2004) Lesson 2-5 Scott Foresman-Addison Wesley (2005) Lesson 1-15 http://nlvm.usu.edu www.coolmath-games.com www.funbrain.com www.aaaknow.com

Math - Grade 6

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Goal 3.4: Understand the concept of functions.	6.M.3.4.1 Extend simple patterns and state a rule (function) that generates the pattern using whole numbers, decimals, and fractions as inputs. CL: E Calc: YES Content Limit: Patterns involve adding or subtracting whole numbers, decimals, or fractions. Fraction denominators limited to 2, 3, 4, and 5. Decimals to hundredths place. Items may ask the student to extend the pattern, state the rule for the pattern, or both.	• Extend simple patterns and state a rule (function) that generates the pattern using whole numbers, decimals, and fractions as inputs	• Recognize a pattern • Describe the pattern • Write the rule (function) for the pattern • Extend the pattern following the rule	function	• Apples sell for $0.15 each. Make a table to find the cost of 4, 8, 12, and 16 apples. What is the rule?	Prentice Hall Course 1 (2004) Lesson 2-5 Scott Foresman-Addison Wesley (2005) Lesson 8-12 http://nlvm.usu.edu www.coolmath-games.com www.funbrain.com www.aaaknow.com
	6.M.3.4.2 Describe and extend patterns by using manipulatives and pictorial representations. CL: D Calc: CN Content Limit: Pictorial only. Patterns must be growth patterns not repeating patterns. Shapes used may include squares and/or triangles.	• Describe and extend patterns by using manipulatives and pictorial representations	• Describe the pattern • Extend the pattern using manipulatives or pictorial representation		• Extend the pattern the next three terms. If the pattern continues, how many 0 would be in the 10th term? 0 0 0 0 0 0 0 0 0 0	http://nlvm.usu.edu www.coolmath-games.com www.funbrain.com www.aaaknow.com
	6.M.3.4.3 Use mathematical models to show change in a real-world context. CL: D Calc: YES Content Limit: Models appropriate for this grade level would include graphing linear relationships in the first quadrant on a coordinate plane.	• Use mathematical models to show change in a real-world context	• Use models to show change (e.g. graphs, charts, diagrams, coordinate planes)	coordinate plane	• Use a coordinate plane to solve. A taxi begins at (1,2). It travels 3 blocks east and 5 blocks north to pick up a customer. What are the customer's coordinates?	Prentice Hall Course 1 (2004) Real World Snapshots throughout the book http://nlvm.usu.edu www.coolmath-games.com www.funbrain.com www.aaaknow.com
	6.M.3.4.4 Use appropriate vocabulary. CL: Calc: Content Limit: Assessed in the classroom, not on the ISAT.	• Use appropriate vocabulary	• Define appropriate vocabulary • Use and understand appropriate vocabulary • Incorporate the use of appropriate vocabulary in speech and writing			www.math.about.com www.mathwords.com
Goal 3.5: Represent equations, inequalities and functions in a variety of formats.	No objectives at this grade level.					
Goal 3.6: Apply functions to a variety of problems.	6.M.3.6.1 Use patterns to represent and solve simple problems. CL: C, D Calc: YES Content Limit: Given an illustration of a pattern or a situation in words that describes a pattern, students extend the pattern to solve a problem. Patterns may involve addition, subtraction, or multiplication and whole numbers less than 100.	• Use patterns to represent and solve simple problems	• Demonstrate how to use a pattern to solve a problem		• Suppose a rectangular table seats four people on each side and three on each end. How many seats are available if the ends of seven tables are pushed together?	Prentice Hall Course 1 (2004) Lesson 2-4 Scott Foresman-Addison Wesley (2005) Lesson 3-10 and 7-2 http://nlvm.usu.edu www.coolmath-games.com www.funbrain.com www.aaaknow.com

Math - Grade 6

Idaho Department of Education Content Standards	Objective	Sub Objectives	Task Analysis	Essential Vocabulary	Sample Questions	Suggested Materials and Resources
Standard 4: Concepts and Principles of Geometry						
Goal 4.1: Apply concepts of size, shape, and spatial relationships.	6.M.4.1.1 Describe relationships among types of one- and two- dimensional geometric figures, using their defining properties. CL: Calc: Content Limit: Assessed in the classroom, not on the ISAT.	• Describe relationships among types of one- and two-dimensional geometric figures, using their defining properties	• Define one- and two- dimensional geometric figures • Classify one- and two- dimensional geometric figures using their defining properties • Compare one- and two- dimensional geometric figures	one-dimensional • two-dimensional	• Compare and contrast a square and a rectangle; a square and cube.	Prentice Hall Course 1 (2004) Chapter 8 Scott Foresman-Addison Wesley (2005) Chapter 9 http://nlvm.usu.edu www.coolmath-games.com www.funbrain.com www.aaaknow.com
	6.M.4.1.2 Draw and measure various angles and shapes using appropriate tools. CL: Calc: Content Limit: Assessed in the classroom, not on the ISAT.	• Draw and measure various angles and shapes using appropriate tools	• Draw and measure various shapes using appropriate tools • Use a protractor to measure angles • Use a protractor to draw angles • Demonstrate use of a compass	protractor • acute angle • right angle • obtuse angle • straight angle • compass	• Use a protractor to draw an obtuse angle. • Use a compass to draw a circle with a 3 cm radius.	Prentice Hall Course 1 (2004) Lesson 3-8 and 6-6 Scott Foresman-Addison Wesley (2005) Lesson 3-10 and 7-2 http://nlvm.usu.edu www.coolmath-games.com www.funbrain.com www.aaaknow.com
	6.M.4.1.3 Apply fundamental concepts, properties, and relationships among points, lines, rays, and angles. CL: C Calc: CN Content Limit: Include parallel, intersecting and perpendicular lines. Angles include acute, right, obtuse, and straight. Symbols that may be used include: capital letter for points, two-headed arrow above two capital letters for lines, line segment above two capital letters for line segments, one-headed arrow above two capital letters for rays, angle symbol with one capital letter or angle symbol with three capital letters for angles, and symbols for parallel, perpendicular, and right angle.	• Apply fundamental concepts, properties, and relationships among points, lines, rays, and angles	• Use the appropriate symbols for points, lines, rays, segments, angles, parallel, perpendicular and right angles • Apply fundamental concepts, properties, and relationships among points, lines, rays, and angles	point • ray • acute angle • right angle • obtuse angle • straight angle • line • intersecting line• line segment • parallel • perpendicular	• Draw and label each of the essential vocabulary words.	Prentice Hall Course 1 (2004) Lesson 8-1 Scott Foresman-Addison Wesley (2005) Chapter 9 http://nlvm.usu.edu www.coolmath-games.com www.funbrain.com www.aaaknow.com
	6.M.4.1.4 Describe reflections, translations, and rotations on various shapes. CL: C Calc: CN Content Limit: 'Describe' allows for selection of description. Rotations may be clockwise or counterclockwise. Rotations are in increments of 90 degrees. Responses will not require naming of x-axis or y-axis. Only one transformation per item is allowed. Items may include a given description and a graphic shown for each answer option.	• Describe reflections, translations, and rotations on various shapes	• Identify the degrees of rotation in 90 degree increments including clockwise and counterclockwise • Recognize that only rotation and reflection can change the orientation of a figure • Differentiate between translations, reflections, and rotations	rotations • translations • reflections • transformation • center of rotation • line of reflection • orientation	• Identify the transformation. If the arrow has a center of rotation, show and label it. If the transformation is a rotation, label the direction of rotation and the degree of rotation. If it is a reflection, draw a line of reflection.	Prentice Hall Course 1 (2004) Lesson 8-9 Scott Foresman-Addison Wesley (2005) Lesson 9-11 http://nlvm.usu.edu www.coolmath-games.com www.funbrain.com www.aaaknow.com
	6.M.4.1.5 Identify congruence, similarities, and line symmetry of shapes. CL: D Calc: CN Content Limit: Shapes limited to two-dimensional figures.	• Identify congruence, similarities, and line symmetry of shapes	• Identify congruent two-dimensional shapes • Explain why two or more shapes are congruent • Identify similar two-dimensional shapes • Explain why two or more shapes are similar • Contrast similar and congruent figures • Show line symmetry in a given shape	congruent shapes • similar shapes • line symmetry	• Draw all lines of symmetry, then draw a congruent shape and a similar shape.	Prentice Hall Course 1 (2004) Lessons 8-7 and 8-8 Scott Foresman-Addison Wesley (2005) Lessons 9-10 and 9-13 http://nlvm.usu.edu www.coolmath-games.com www.funbrain.com www.aaaknow.com

Math - Grade 6

Idaho Department of Education Content Standards	Objective	Sub Objectives	Task Analysis	Essential Vocabulary	Sample Questions	Suggested Materials and Resources
	6.M.4.1.6 Discuss the spatial relationship between two- and three-dimensional objects. CL: Calc: Content Limit: Assessed in the classroom, not on the ISAT.	• Discuss the spatial relationship between two- and three-dimensional objects	• Compare and contrast the spatial relationship between two- and three- dimensional objects	spational relationship • three-dimensional		http://nlvm.usu.edu www.coolmath-games.com www.funbrain.com www.aaaknow.com
	6.M.4.1.7 Use appropriate vocabulary and symbols. CL: Calc: Content Limit: Assessed in the classroom, not on the ISAT.	• Use appropriate vocabulary and symbols	• Define appropriate vocabulary • Use and understand appropriate vocabulary • Incorporate the use of appropriate vocabulary in speech and writing • Incorporate the use of symbols in mathematical writing			www.math.about.com www.mathwords.com
Goal 4.2: Apply the geometry of right triangles.	No objectives at this grade level.					
Goal 4.3: Apply graphing in two dimensions.	6.M.4.3.1 Identify and plot points in the first quadrant on a coordinate plane. CL: C Calc: CN Content Limit: Coordinates are whole numbers. Point may be on positive x- or y-axis.	• Identify and plot points in the first quadrant on a coordinate plane	• Define coordinate plane, x-axis, y-axis, origin, and ordered pair • Show the relationship between an ordered pair and its location on a coordinate plane • Locate points on a coordinate plane • Plot points on a coordinate plane • Write the ordered pair for a given point on a coordinate plane	coordinate plane • quadrant • x-axis• y-axis • origin • ordered pair	• Plot the following point on a coordinate plane. (2,3); (0,5); (4,0); and (3,1)	Prentice Hall Course 1 (2004) Lesson 10-6 Scott Foresman-Addison Wesley (2005) Lesson 8-11 http://nlvm.usu.edu www.aaaknow.com www.funbrain.com www.coolmath-games.com
Standard 5: Data Analysis, Probability, and Statistics						
Goal 5.1: Understand data analysis.	6.M.5.1.1 Read and interpret tables, charts, and graphs, including broken line graphs, bar graphs, frequency tables, line plots, and circle graphs. CL: C, D Calc: YES Content Limit: Graphics may have ten data categories at most. Scales are in increments of 1, 2, 5, or 10, or must be consistent with real-world application. Bar graphs can be horizontal or vertical. Circle graphs may have at most six sectors. Data may be categorical or numerical.	• Read and interpret tables, charts, and graphs, including broken line graphs, bar graphs, frequency tables, line plots, and circle graphs	• Read tables, charts, and graphs • Interpret tables, charts, and graphs • Identify the scale and interval of a graph	broken line graph • frequency table • line plot • circle graph • scale • interval	• Use the line plot to answer the question. x = 1 DVDs Rented by Each Customer x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x 1 2 3 4 5 6 7 8 Number of DVDs • How many people rented more than 4 DVDs? • Using the information above, make a frequency table.	Prentice Hall Course 1 (2004) Chapter 7 Scott Foresman-Addison Wesley (2005) Chapter 11 http://nlvm.usu.edu www.aaaknow.com www.funbrain.com www.coolmath-games.com
	6.M.5.1.2 Explain and justify stated conclusions drawn from tables, charts, and graphs. CL: Calc: Content Limit: Assessed in the classroom, not on the ISAT.	• Explain and justify stated conclusions drawn from tables, charts, and graphs	• Explain stated conclusions drawn from tables, charts, and graphs • Justify stated conclusions drawn from tables, charts, and graphs			Prentice Hall Course 1 (2004) Chapter 7 Scott Foresman-Addison Wesley (2005) Chapter 11 http://nlvm.usu.edu www.aaaknow.com www.funbrain.com
	6.M.5.1.3 Use appropriate vocabulary and notations. CL: Calc: Content Limit: Assessed in the classroom, not on the ISAT.	• Use appropriate vocabulary and notations	• Define appropriate vocabulary • Use and understand appropriate vocabulary • Incorporate the use of appropriate vocabulary in speech and writing			www.math.about.com www.mathwords.com

Math - Grade 6

Idaho Department of Education Content Standards	Objective	Sub Objectives	Task Analysis	Essential Vocabulary	Sample Questions	Suggested Materials and Resources
Goal 5.2: Collect, organize, and display data.	6.M.5.2.1 Collect, organize, and display the data with appropriate notation in tables, charts, and graphs, including broken line graphs, bar graphs, frequency tables and line plots. CL: C Calc: CR Content Limit: Given data, choose a display. Displays limited to broken line graph, bar graph, frequency table, and line plots. 'Collect' data should be assessed in the classroom, not on the ISAT.	• Collect, organize, and display the data with appropriate notation in tables, charts, and graphs, including broken line graphs, bar graphs, frequency tables and line plots	• Collect data for a table, chart, or graph • Choose the appropriate type of table, chart, or graph • Organize data to form a table, chart, or graph • Display data in a table, chart, or graph • Label the parts of the table, chart, or graph		• Choose the correct graph to show the amount of time you spend on homework each day for one week.	Prentice Hall Course 1 (2004) Chapter 7 Scott Foresman-Addison Wesley (2005) Chapter 11 http://nlvm.usu.edu www.aaaknow.com www.funbrain.com www.coolmath-games.com
Goal 5.3: Apply simple statistical measurements.	6.M.5.3.1 Find measures of central tendency – mean, median, and mode – with simple sets of data. CL: C Calc: YES Content Limit: At most five numbers are used to calculate mean. At most nine numbers are used to calculate median (must be an odd number of items in data set given in numeric order). Mode can use up to 10 numbers. When determining the mode, the data set must contain a unique mode. Numbers are less than 300.	• Find measures of central tendency – mean, median, and mode – with simple sets of data	• Find the mean of a set of data • Find the mode of a set of data • Find the median of a set of data	mean • median • mode • central tendency	• These are the scores for the 6th grade math test. 95, 80, 91, 92, 94, 94, and 98. Find the mean, median, and mode. What is the central tendency of this data?	Prentice Hall Course 1 (2004) Lesson 7-1 Scott Foresman-Addison Wesley (2005) Lesson 11-2 http://nlvm.usu.edu www.coolmath-games.com www.funbrain.com www.aaaknow.com
	6.M.5.3.2 Calculate the range of a set of data. CL: C Calc: CR Content Limit: Data set contains no more than 10 numbers. Data set may include decimals to tenths.	• Calculate the range of a set of data	• Calculate the range of a set of data	range	• Find the range for the set of data. 95, 80, 91, 92, 94, 94, and 98	Prentice Hall Course 1 (2004) Lesson 7-2 Scott Foresman-Addison Wesley (2005) Lesson 11-2 http://nlvm.usu.edu www.coolmath-games.com www.funbrain.com www.aaaknow.com
Goal 5.4: Understand basic concepts of probability.	6.M.5.4.1 Predict, perform, and record results of simple probability experiments. CL: C Calc: YES Content Limit: Items using multiple trials must be done with replacement. Items may ask for the probability of a combination of outcomes (e.g., the probability of drawing a red marble or a green marble). Items may require the representation of all possible outcomes.	• Predict, perform, and record results of simple probability experiments	• Predict the results of a probability experiment • Perform a simple probability experiment • Record the results of a probability experiment	probability	• How many times would a penny land on heads if you flipped a penny 50 times? • If you rolled a six-sided die 50 times, how many times would you roll an even number?	Prentice Hall Course 1 (2004) Chapter 11 Scott Foresman-Addison Wesley (2005) Chapter 11 http://nlvm.usu.edu www.coolmath-games.com www.funbrain.com www.aaaknow.com
	6.M.5.4.2 Use the language of probability. CL: Calc: Content Limit: Assessed in the classroom, not on the ISAT.	• Use the language of probability	• Define appropriate vocabulary • Use and understand appropriate vocabulary • Incorporate the use of appropriate vocabulary in speech and writing			www.math.about.com www.mathwords.com
Goal 5.5: Make predictions or decisions based on data.	6.M.5.5.1 Make predictions based on data. CL: E Calc: YES Content Limit: Data given in bar graph, circle graph, or table.	• Make predictions based on data	• Make predictions based on data • Justify the prediction		• John makes 9 out of 10 free throws. How many would you expect him to make out of 100 free throws? Justify your answer.	Prentice Hall Course 1 (2004) Lesson 11-3 Scott Foresman-Addison Wesley (2005) Chapter 11-13 http://nlvm.usu.edu www.coolmath-games.com www.funbrain.com www.aaaknow.com