

Simply

Good and Beautiful

MATH

6

COURSE BOOK

$$30\% \times 10 = 3$$

60°

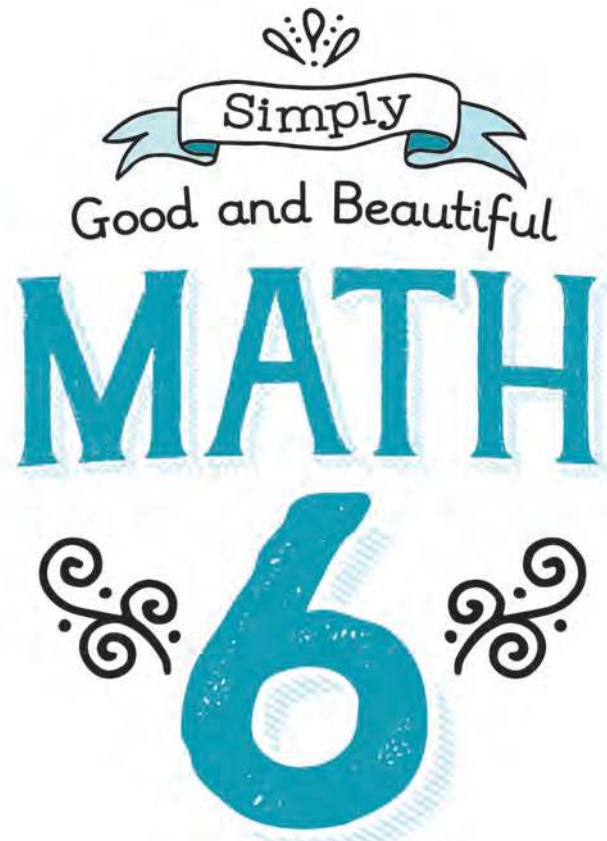
x°

60°

$$A = bh$$

pink : yellow
 $3 : 5$

$$25\% = 0.25 = \frac{25}{100} = \frac{1}{4}$$



COURSE BOOK 1

Created by the Simply Good and Beautiful Math Team

Reviewed by Alia Criddle, MS in mathematics; Deanna Dreher, PhD in mathematics;

Brittany Hopper, MS in mathematics education; Bailee Neering, BS in mathematics education;

Nicki Savinda, BS in mathematics with secondary education certification; Shallin Squire, MA in mathematics education



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ABOUT THE COURSE

Supplies Needed

- ▶ *Simply Good and Beautiful Math 6 Course Book 1 and Simply Good and Beautiful Math 6 Course Book 2*
- ▶ *Simply Good and Beautiful Math 6 Answer Key*
- ▶ *Simply Good and Beautiful Math Scratch Pad*
or other scratch paper
- ▶ Device to access videos (highly recommended)
- ▶ Pencils
- ▶ 2 standard dice
- ▶ Colored pencils
- ▶ Protractor
- ▶ Ruler
- ▶ Scissors
- ▶ Bowl
- ▶ Tape or glue
- ▶ Paper
- ▶ Tape measure

Course Overview

Math 6 consists of Books 1 and 2. There are 120 total lessons divided into four units. Each unit ends with a unit review and assessment. The course is designed to be completed by the student independently, but parents/teachers can choose to be as involved in the lessons as they would like to be.

Lesson Overview

Most lessons are four pages and consist of a warm-up, video lesson, mental math, mini lesson, practice, and review.

Warm-Up: An activity that applies to the lesson topic.

Video Lesson: Videos provide detailed teaching and interactive guided practice of the lesson topic. Scan the QR code or go to goodandbeautiful.com/Math6 to access the videos. Videos are about 12–15 minutes in length.

Mental Math Checkup: A quick review of mental math skills and facts practice.

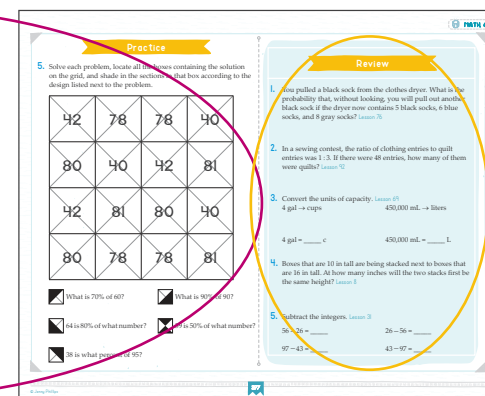
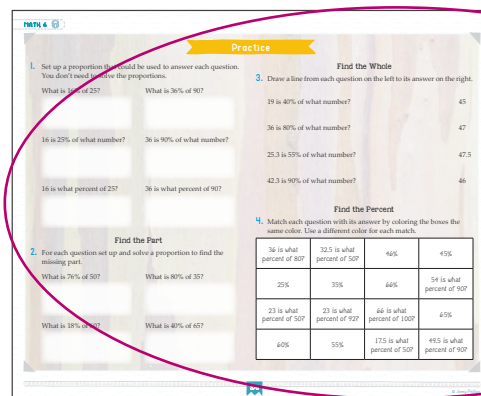
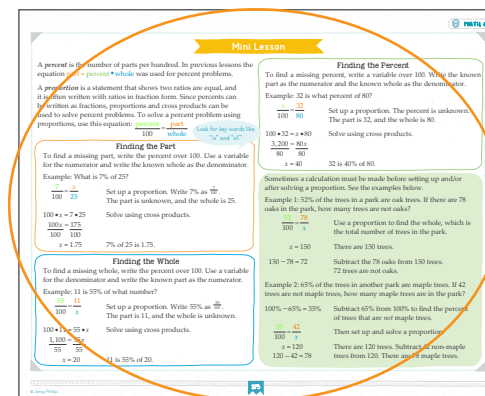
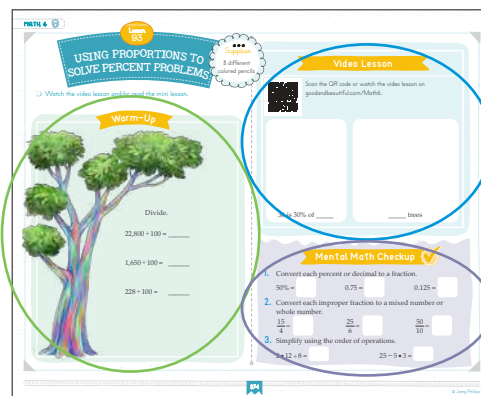
Mini Lesson: A concise written lesson on the topic.

Practice: Practice that is dedicated to the lesson topic.

Review: Daily review of topics from previous lessons.

Getting Started

Simply open the first course book. Students may choose to watch the video lesson or just read the mini lesson if they feel confident in the lesson topic. Please note that videos may contain material not included in the written mini lesson. Students may complete the warm-up before or during the video. Mental math may be completed at any point during the lesson. After completing the video and/or mini lesson, the student should complete the lesson practice and review sections. Parents/teachers should check the student's work daily and provide immediate help and feedback. Students who struggle with the lesson practice should be encouraged to review the mini lesson or the video for help. *Note: If printing at home, print pages at actual size.*



A Reference Chart is included at the end of each course book.

Frequently Asked Questions

How many lessons should my student do each week?

- There are 120 lessons in the course. If the student completes four lessons per week, he or she will complete the course in a standard school year with typical breaks for vacation or sickness.

How long do lessons take?

- The average time to complete a lesson is 45–60 minutes. This includes time to watch the video and complete the course book sections.

What if my child is too slow/fast?

- If your child takes longer than average but is understanding and retaining information, don't worry. You may want to break up the lessons. Watch the video and begin the practice. Then finish the practice and complete the review section at another time.
- To avoid holes in his or her math foundation, we suggest not skipping entire levels if your child works more quickly than average but is learning new concepts. Consider having your child do multiple lessons a day to complete the course faster.
- If your child takes less time than average and seems to already know all the information, consider giving the Unit Assessments to see if he or she can skip any units or move on to the next course.

Do you include any specific doctrine?

- No, the goal of our curriculum is not to teach doctrines specific to any particular Christian denomination but to teach general principles such as honesty, hard work, and kindness. All Bible references in our curriculum use the King James Version.

Does my student have to watch the videos?

- The videos contain the bulk of the teaching and are highly recommended. However, if your student feels confident in the topic being taught, he or she can skip the video and read the mini lesson instead. A student who struggles with the lesson practice should be encouraged to go back and watch the video.
- Some families prefer to have the parent/teacher teach the child using the mini lesson rather than have the child watch the video lesson independently.

Is Math 6 completed independently by the child?

- Yes, Math 6 is designed for your student to complete independently, though at times students may need parent/teacher assistance to understand a concept. Parents/teachers will need to check the child's work and should do so on a daily basis when possible, providing immediate feedback.

Is Math 6 a spiral or mastery program?

- Math 6 is a spiral course, constantly reviewing concepts your student has learned to ensure understanding and retention of information.

What if there isn't room to complete the work?

- Students should always keep scratch paper on hand while completing the lessons. The *Simply Good and Beautiful Math Scratch Pad* is available for purchase.

Is a calculator used in Math 6?

- This course is designed to be completed without the use of a calculator. Lesson 117 is an introduction to calculators. A scientific calculator is helpful in this lesson but isn't necessary. Calculators should not be used for any other lessons.

UNIT 1 OVERVIEW

LESSONS 1–30

Extra Supplies Needed

- 1 standard die
- colored pencils

New Concepts Taught

- absolute value
- area of a parallelogram
- area of a trapezoid
- distance on a coordinate plane
- division with a three-digit divisor and a six-digit dividend
- expanded notation of decimal numbers through the millionths place
- expanded notation with exponents
- greatest common factor of three-digit numbers
- identity and inverse properties
- negative fractions and decimal numbers on a number line
- nets and surface area of trapezoidal prisms and parallelepipeds
- prime factorization of four-digit numbers
- prime factorization to determine least common multiples
- rational numbers with exponents

Concepts Reviewed and Expanded Upon

- addition, subtraction, multiplication, and division of decimal numbers
- addition, subtraction, multiplication, and division of fractions
- area of a triangle
- area of irregular figures
- associative, commutative, and distributive properties
- convert between fractions, decimal numbers, and percents
- convert between improper fractions and mixed numbers
- divisibility rules
- equivalent fractions
- fraction comparisons
- fractions in simplest form
- negative numbers
- number patterns and infinite sequences
- order of operations
- triangle classification

UNIT 2 OVERVIEW

LESSONS 31–60

Extra Supplies Needed

- colored pencils
- protractor
- ruler

New Concepts Taught

- addition and subtraction of integers
- adjacent angles
- area and perimeter of a semicircle
- central angles
- coefficients, constants, terms, and variables in expressions
- complementary and supplementary angles
- complex fractions
- convert between turns and degrees
- cube roots
- decimal percentages
- distance between two points on a coordinate plane
- equations with decimals and fractions
- evaluate expressions with exponents, fractions, and negative numbers
- evaluate expressions with more than one variable
- factor an expression
- find the percent when the whole and a part are known
- find the whole when the percent and a part are known
- identify and combine like terms
- missing angle measures in triangles and quadrilaterals
- multiple transformations on a coordinate plane
- multiplication and division of integers
- names of quadrants on a coordinate plane
- one-step equations with addition and subtraction
- one-step equations with multiplication and division
- parts of a circle: central angles and chords
- percent problems with fractions
- sum of the interior angle measures of a quadrilateral
- sum of the interior angle measures of a triangle

Concepts Reviewed and Expanded Upon

- angle classification
- area and circumference of a circle
- check solutions
- differences between an equation and an expression
- distributive property
- graph in all four quadrants
- measure and construct angles using a protractor
- name geometric figures with symbols and letters
- percent of a number
- pi
- polygons and other geometric figures
- quadrilateral classification
- radius and diameter
- reflectional, translational, and rotational symmetry
- square roots
- transformations on a coordinate plane
- volume of a cube

$$\frac{1 \text{ cm}}{12 \text{ ft}} = \frac{4 \text{ cm}}{x \text{ ft}}$$

$h = 2.560 \text{ m}$

68 °F / 20 °C

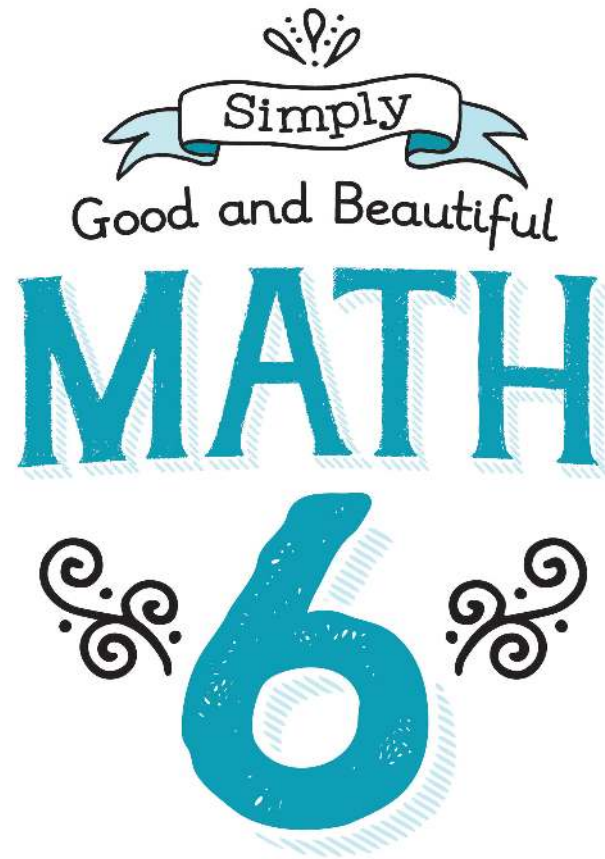
72°

rate: 3.5 mph

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MATH

6

COURSE BOOK



COURSE BOOK 2

Created by the Simply Good and Beautiful Math Team

Reviewed by Alia Criddle, MS in mathematics; Deanna Dreher, PhD in mathematics;
Brittany Hopper, MS in mathematics education; Bailee Neering, BS in mathematics education;
Nicki Savinda, BS in mathematics with secondary education certification; Shallin Squire, MA in mathematics education



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UNIT 3 OVERVIEW

LESSONS 61–90

Extra Supplies Needed

- colored pencils
- protractor
- ruler
- 2 standard dice
- coin
- scissors
- bowl

New Concepts Taught

- angle bisectors
- calculate discount and sale price
- check solutions to inequalities
- compare ratios
- compound interest
- compound probability with multiplication
- cross products with proportions
- dependent and independent variables
- distributive property with variables
- equations with square roots and cube roots
- equations with squared and cubed variables
- estimate square roots
- experimental probability
- factor expressions with variables
- fractions of a group—solve for the part, fraction, or whole
- graph inequalities on number lines
- graph lines on coordinate planes
- independent events with probability
- input/output tables for equations
- percent equation
- perpendicular bisectors
- predict outcomes of probability experiments
- proportions on a graph
- sample space
- simple interest
- solve one-step inequalities
- solve two-step equations
- solve two-step inequalities
- square roots of perfect squares greater than 225
- tax and total cost with tax
- theoretical probability
- total cost of discounted item with tax
- tree diagrams to record probability outcomes
- unit multipliers
- volume of prisms
- write an inequality from a graph

Concepts Reviewed and Expanded Upon

- add and subtract mass, length, and capacity
- check solutions to equations
- conversions—capacity
- conversions—length
- conversions—mass and weight
- inverse operations
- probability experiments
- probability outcomes
- proportional relationships
- proportions
- ratios
- simple probability
- US customary system and metric system
- volume of cubes, rectangular prisms, and cylinders

UNIT 4 OVERVIEW

LESSONS 91–120

Extra Supplies Needed

- colored pencils
- ruler
- scissors
- glue or tape
- protractor
- paper
- tape measure

New Concepts Taught

- solve proportions given part to whole ratios
- solve proportions given part to part ratios
- percent problems with proportions
- unit rates
- corresponding parts of congruent and similar figures
- missing side lengths in similar figures
- parallel lines cut by a transversal
- corresponding angles, alternate interior angles, alternate exterior angles
- polyhedrons and Platonic solids
- statistical questions and surveys
- qualitative and quantitative data
- create circle graphs
- create and interpret line plots with decimal values
- convert square units of area
- conversions using multiple unit multipliers
- calculate measures of central tendency
- interpret and choose measures of central tendency
- create and interpret box plots
- identify first, second, and third quartiles in box plots
- interpret and analyze data displayed graphically
- base 2
- scientific notation
- understand calculator displays and errors on calculators

Concepts Reviewed and Expanded Upon

- scale drawings and map scales
- congruent figures
- similar figures
- regular and irregular polygons
- data, population, sample
- closed-ended and open-ended questions
- bias in statistics
- pictographs
- create and interpret bar graphs
- create and interpret line graphs
- interpret circle graphs
- converting between Fahrenheit and Celsius
- create and interpret histograms
- create and interpret stem and leaf plots
- convert between Fahrenheit and Celsius
- strategies for solving word problems