

Review,
Practice,
& Mastery of

CALIFORNIA MATHEMATICS STANDARDS

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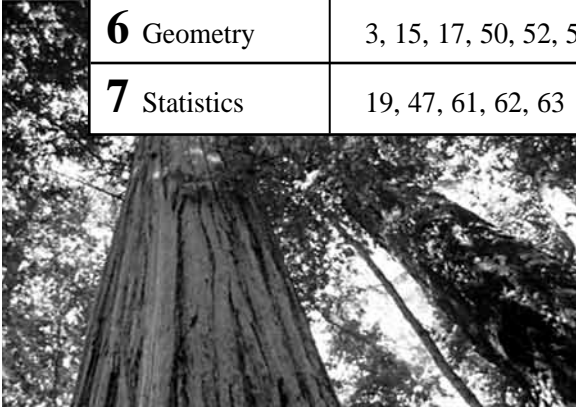
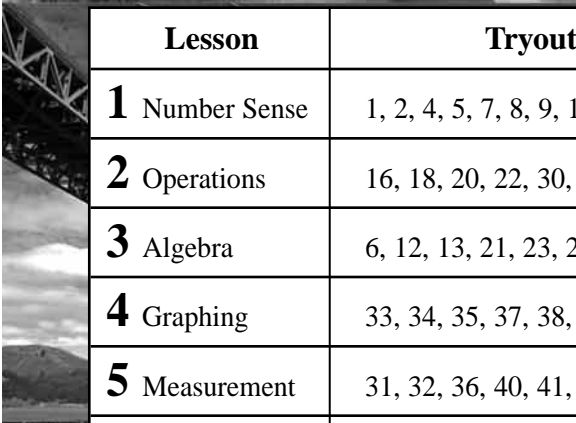
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For the Student

This book will help you review, practice, and master the California Mathematics Content Standards. Here are the steps to follow to use this book.

1. Take the Tryout Test and check your answers. Use the chart at the bottom of this page to find out your strengths and weaknesses in the areas covered. Don't be discouraged if you don't get all the answers right or if you don't understand some questions. Remember the questions that are hard for you to answer. They will be the types of questions you need to work on the most.
2. Work through the lessons that follow the Tryout Test. Each lesson provides a review as well as practice questions based on the content standards. Each lesson ends with a short mastery test to reinforce your learning. As you go, complete the "Charting Your Progress" chart on page 104 of this book.
3. After completing all seven lessons, take the Final Mastery Test. Your score on this test will show your understanding of the content standards.

By following the steps outlined above, you will increase your mastery of the California Mathematics Content Standards.

Lesson	Tryout Test Items	Final Mastery Test Items
1 Number Sense	1, 2, 4, 5, 7, 8, 9, 10, 11, 14, 25, 27, 43	1, 2, 4, 5, 7, 8, 9, 10, 11, 14, 24, 26, 46
2 Operations	16, 18, 20, 22, 30, 51	16, 18, 19, 21, 29, 30, 52
3 Algebra	6, 12, 13, 21, 23, 24, 26, 28, 29, 39	6, 12, 13, 20, 22, 23, 25, 27, 28, 41
4 Graphing	33, 34, 35, 37, 38, 46, 60	31, 35, 36, 37, 38, 39, 49, 60
5 Measurement	31, 32, 36, 40, 41, 42, 44, 45, 48, 49	32, 33, 40, 42, 43, 44, 45, 47, 48, 51
6 Geometry	3, 15, 17, 50, 52, 53, 54, 55, 56, 57, 58, 59	3, 15, 17, 34, 53, 55, 56, 57, 58, 59
7 Statistics	19, 47, 61, 62, 63	50, 54, 61, 62, 63

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Number Sense

- Using Scientific Notation
- Calculating with Rational Numbers
- Equivalent Fractions, Decimals, and Percents
- Identifying Rational Numbers
- Calculating with Percentages

Using Scientific Notation

Review Number Sense Standard 1.1

Mathematicians and scientists use scientific notation to make it easier to read and write very large and very small numbers. For example, 1.3×10^{11} is easier to read than the standard form 130,000,000,000.

Example A Which answer choice shows 0.0105 written in scientific notation?

- A 1.5×10^2 C 1.05×10^{-2}
 B 1.05×10^2 D -1.05×10^2

Reading Scientific Notation

The exponent tells how many places to move the decimal point. A positive exponent tells you to move the decimal point to the right.

$$1.5 \times 10^2 = 150$$

A negative exponent tells you to move the decimal point to the left.

$$1.5 \times 10^{-2} = .015$$

Try It Now try these problems on your own.

Questions 1–3: Write each number in scientific notation.

- 1 41,250,000
Answer: _____
- 2 0.0004109
Answer: _____
- 3 51,000
Answer: _____

Step-By-Step

- 1 Move the decimal point until you create a number greater than 0 but less than 10.

$$0.0105$$

- 2 How many places did you move the decimal point?

- 3 The number of places you move the decimal point is the value of the exponent.

- 4 If you moved the decimal point to the right, place a negative sign on the exponent. If you moved it to the left, the exponent is positive. Which answer choice shows the correct answer?

Questions 4–5: Write the standard form of each number.

- 4 2.7×10^5
Answer: _____
- 5 5.0×10^{-3}
Answer: _____

- 6 Which number is less than 1.035×10^{-3} but greater than 0.0001?
- A 0.0539 C 1.0006
 B 0.00268 D 0.000985

Calculating with Rational Numbers

Review Number Sense Standard 1.2

You can add, subtract, multiply, and divide rational numbers (integers, fractions, and terminating decimals) and take positive rational numbers to whole-number powers.

Example B

$$-4 - (-3) =$$

- A 1 C 7
 B -1 D -7

Remember . . .

When subtracting, it sometimes helps to rewrite a problem by **adding the opposite**. Review the following chart.

Subtraction	Adding the Opposite
$3 - 5 = -2$	$3 + (-5) = -2$
$-5 - 2 = -7$	$-5 + (-2) = -7$
$-5 - (-2) = -3$	$-5 + 2 = -3$

Example C

$$2.6 \div 0.5 =$$

- A 5 C 5.2
 B 5.1 D 0.52

Remember . . .

When adding or subtracting decimals, remember to line up the decimal points. Fill in zeros for any missing digits.

$$\begin{array}{r} 0.50 \\ + 12.03 \\ \hline \end{array}$$

When multiplying decimals, count the number of decimal places in the factors and add. This is the number of decimal places in the product.

$$\begin{array}{r} 1.03 \\ \times 1.5 \\ \hline 1.545 \end{array}$$

Step-By-Step

- 1 Rewrite the problem by adding the opposite. Which sign, + or -, should go in the blank?

$$-4 - (-3) = -4 \underline{\quad} 3 =$$

- 2 Solve the rewritten problem.

$$-4 + 3 = \underline{\quad}$$

Step-By-Step

- 1 First rewrite the problem as long division to make it easier to solve.

$$0.5 \overline{)2.6}$$

- 2 Move the decimal point in the divisor to the right until it is a whole number. Move the decimal point in the dividend the same number of places.

$$0.5 \overline{)2.6}$$

- 3 Divide as you would with whole numbers.

$$5 \overline{)26.0}$$

Go On →

Example D Find the difference.

$$3\frac{3}{8} - 1\frac{2}{3} =$$

- A $1\frac{17}{24}$ C $2\frac{1}{5}$
 B $1\frac{5}{6}$ D $2\frac{17}{24}$

Remember . . .

When adding or subtracting fractions, you must first find a common denominator. Then add or subtract the numerators.

Example E Simplify $(-6)^4$.

- A $-1,296$ C -24
 B -64 D $1,296$

Remember . . .

When two factors have different signs, the product is *negative*.

$$5 \times -5 = -25$$

When two factors both have negative signs, the product is *positive*.

$$-5 \times -5 = 25$$

Step-By-Step

This problem involves mixed numbers. There are several ways to find a solution. Here is one approach.

- 1** Find a common denominator for the two fractions by multiplying the denominators. Then multiply the numerator by the same number. Write new fractions with the common denominator.

$$\frac{3}{8} \times \frac{3}{3} = \frac{9}{24} \qquad \frac{2}{3} \times \frac{8}{8} = \frac{16}{24}$$

$$3\frac{9}{24} - 1\frac{16}{24} =$$

- 2** You can't take 16 away from 9, so you need to regroup. Rename a one as twenty-fourths.

$$2 + \frac{24}{24} + \frac{9}{24} - 1\frac{16}{24} =$$

- 3** Subtract.

$$2\frac{33}{24} - 1\frac{16}{24} = \underline{\hspace{2cm}}$$

Step-By-Step

- 1** Convert $(-6)^4$ into a multiplication expression. The number -6 is the base; the exponent 4 indicates that you are to repeat -6 as a factor 4 times.

$$(-6)^4 = -6 \times -6 \times -6 \times -6$$

- 2** Multiply the factors in pairs. Remember, the product of two negative factors is a positive number.

$$(-6)^4 = (-6 \times -6) \times (-6 \times -6)$$

$$(-6)^4 = 36 \times 36$$

$$(-6)^4 = \underline{\hspace{2cm}}$$

Try It Now try these problems on your own.

7 Find the product of 28.4 and 6.3.

- A 1,789.2 C 178.92
B 255.6 D 134.82

8 $-48 \div 6 =$

- A -8 C 7
B -7 D 8

9 $3\frac{7}{8} + 4\frac{3}{5} =$

- A $7\frac{10}{13}$ C $8\frac{1}{2}$
B $7\frac{19}{40}$ D $8\frac{19}{40}$

10 Pedro and Sandra did some lawn work for Mr. Johnson. He paid them \$25. If Pedro and Sandra split the money evenly, how much will each one receive?

Answer: _____

11 Micah needs $3\frac{1}{3}$ yards of fabric for one project and $2\frac{3}{4}$ yards of fabric for another. How many yards of fabric does she need in all?

Answer: _____

12 Taylor wants to buy a book that costs \$28. He has \$21.78. How much more money does he need?

Answer: _____

13 $\frac{4}{9} \div \frac{5}{6} =$

- A $\frac{1}{3}$ C $\frac{9}{15}$
B $\frac{8}{15}$ D $\frac{10}{27}$

14 Find the sum of these numbers.

23.4 128.367 298 89.06

- A 181.125 C 538.827
B 318.767 D 13,780.5

15 Simplify 5^3 .

- A 15 C 53
B 25 D 125

16 $-6 - (-3) =$

- A -9 C 3
B -3 D 9

17 Simplify $(-3)^5$.

- A -243 C -15
B -35 D 81

18 Ty entered the elevator on the 10th floor. He rode up 3 floors, down 7 floors, up 2 floors, down 5 floors, and up 6 floors where he got off. On what floor did Ty get off the elevator?

Answer: _____

Equivalent Fractions, Decimals, and Percents

Review Number Sense Standard 1.3

Equivalent fractions, decimals, and percents name the same amount. For example, $\frac{1}{2}$, 0.5, and 50% are equivalent.

Example F Write $\frac{3}{8}$ as a decimal and a percent.

$\frac{3}{8}$ as a decimal = _____

$\frac{3}{8}$ as a percent = _____

Remember . . .

The fraction bar represents division.

$$\frac{3}{4} = 3 \div 4 = .75$$

A percent is a ratio to 100.

$$\frac{3}{4} = \frac{75}{100} = 75\%$$

Example G A clothing store is having a special sale. Winter clothing is $\frac{1}{4}$ off. Marcia found a coat that is marked an additional $\frac{1}{2}$ off the reduced price. What is the total percent discount on the coat?

Answer: _____ %

Step-By-Step

- 1 To convert a fraction to a decimal, write the fraction as a division problem and solve.

$$\frac{3}{8} = 3 \div 8 = \underline{\hspace{2cm}}$$

- 2 To find the percent, multiply the decimal by 100. As a shortcut, move the decimal point 2 places to the right.

$$\frac{3}{8} = \underline{\hspace{2cm}} \%$$

Step-By-Step

- 1 When you reduce a price by $\frac{1}{4}$, what fraction of the price remains? Let 1 represent the original price. Subtract.

$$1 - \frac{1}{4} = \frac{3}{4}$$

- 2 The new sale price is $\frac{1}{2}$ of $\frac{3}{4}$. Multiply to find the fraction of the original price.

$$\frac{1}{2} \times \frac{3}{4} = \underline{\hspace{2cm}}$$

- 3 The fraction represents how much Marcia will pay, not the discount. To find the discount, subtract from 1 again.

$$1 - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

- 4 Convert the fraction to a percent.

$$\underline{\hspace{2cm}} \%$$

Example H Carli polled students in the cafeteria. Out of 123 students, 58 students said they would like more vegetarian food choices for lunch. Approximately what percent of the students polled would like more vegetarian foods at lunch?

- A 70% C 50%
 B 60% D 40%

Remember . . .

To convert a fraction to a percent, compare it to a fraction with 100 as the denominator. Find cross products and divide.

$$\frac{5}{8} = \frac{x}{100}$$

$$8x = 500$$

$$x = 500 \div 8$$

$$x = 62.5\%$$

Step-By-Step

1 Express as a fraction the number of students polled who would like more vegetarian options at lunch.

2 Notice that the question asks for an approximate percent. Round the numerator and denominator to numbers that will be easy to divide.

58 rounds to 60

123 is close to _____

3 Convert the fraction to a percent by simplifying.

$$\frac{60}{120} = \underline{\hspace{1cm}} \%$$

Try It Now try these problems on your own.

Questions 19–21: Write each number in scientific notation. Write each fraction as a decimal and as a percent.

19 $\frac{3}{4} =$ Decimal: _____ Percent: _____

20 $\frac{1}{8} =$ Decimal: _____ Percent: _____

21 $\frac{9}{20} =$ Decimal: _____ Percent: _____

22 Estimate the percent that describes 38 out of 104.

Answer: _____

23 Helen answered 4 questions incorrectly on this week’s quiz. There were 20 questions on the quiz. What percent of the questions did she answer correctly?

- A 20% C 75%
 B 25% D 80%

24 To convert a decimal to a percent, you multiply by 100. What would you do to change a percent to a decimal?

Answer: _____

25 John made 48 of the 64 free throw shots he attempted. What percent of the shots did he make?

Answer: _____

Identifying Rational Numbers

Review Number Sense Standards 1.4–1.5

A **rational number** is any number that can be written as a fraction. This includes whole numbers, integers, fractions, terminating decimals, and repeating decimals. An **irrational number** cannot be written as a fraction.

- **Whole Numbers:** 0, 1, 2, 3, . . .
- **Integers:** . . . -2, -1, 0, 1, 2, . . .
- **Fractions:** $-\frac{1}{4}, \frac{3}{4}, \frac{3}{1}, \dots$
- **Terminating Decimals:** 21.5, 1.75, 1.85, . . .
- **Repeating Decimals:** $\frac{2}{9} = 0.222. . .$

Example I

Which number is NOT a rational number?

- A $\frac{5}{8}$ C 0.714714 . . .
 B -3 D π

Example J

Which shows 0.475 as a fraction in simplest form?

- A $\frac{4}{75}$ C $\frac{95}{200}$
 B $\frac{19}{40}$ D $4\frac{3}{4}$

Remember . . .

Decimal places start with tenths.

$$0.4 = 4 \text{ tenths} = \frac{4}{10}$$

$$0.07 = 7 \text{ hundredths} = \frac{7}{100}$$

$$0.005 = 5 \text{ thousandths} = \frac{5}{1,000}$$

Step-By-Step

Look at each answer choice. Which choice cannot be written as a fraction?

1 Choice A is a fraction, so it is a rational number.

2 Write answer choice B as a fraction.

3 Choice C is a repeating decimal. All repeating decimals are rational numbers.

4 Choice D is π . When the value of π is written, it is a decimal that continues forever with no repeating pattern. π is called an irrational number since it cannot be written as a fraction. The fraction $\frac{22}{7}$ is an approximation of π .

Step-By-Step

1 Write the word name for the decimal.

$$0.475 = 475 \text{ thousandths}$$

2 Write a fraction with 475 as the numerator and 1,000 as the denominator. Simplify the fraction.

$$0.475 = \frac{475}{1,000} = \frac{\quad}{\quad}$$

Calculating with Percentages

Review Number Sense Standards 1.6–1.7

Percent of change is expressed as a percent and is the ratio $\frac{\text{amount of change}}{\text{original amount}}$. When a value increases from the original amount, it is called the **percent of increase**, and when a value decreases, it is called the **percent of decrease**.

Simple interest is interest that is paid only on a principal amount. **Compound interest** is interest that is paid on both the principal and the interest that has already been paid.

Example L

The regular price of a swimsuit is \$45.95. Carol bought the suit when the store had a 10% off sale. How much did Carol pay for the swimsuit?

Answer: _____

Frequently Used Percents

Percent	Decimal	Fraction
10%	0.1	$\frac{1}{10}$
20%	0.2	$\frac{1}{5}$
25%	0.25	$\frac{1}{4}$
50%	0.5	$\frac{1}{2}$
75%	0.75	$\frac{3}{4}$

Formula for Simple Interest:

$I = p \times r \times t$ where I is the interest; p is the principal (initial investment), r is the interest rate as a decimal, and t is the time in years.

Formula for Compound Interest:

$A = P(1 + \frac{r}{n})^{nt}$ where A is the total amount of principal and interest, P is the principal, r is the interest rate, t is the time in years, and n is the number of times the interest is compounded each year.

Example M

Beth has \$500 she wants to invest for 5 years. She can choose between two accounts. In account A she will receive 5% simple interest. In account B she will receive 3% annually compounded interest. In which account will Beth earn the most interest?

Answer: _____

Step-By-Step

- 1 First compute the discount. Change 10% to a decimal or fraction and then multiply by \$45.95. Round to the nearest cent.

$$10\% = 0.1$$

$$0.1 \times \$45.95 = \underline{\hspace{2cm}}$$

- 2 Subtract the discount from the regular price.

$$\$45.95 - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

Step-By-Step

- 1 Substitute the numbers from the problem into each formula and simplify.

Simple Interest: $I = p \times r \times t$

$$I = \$500 \times 0.05 \times 5 = \underline{\hspace{2cm}}$$

Compound Interest: $A = P(1 + \frac{r}{n})^{nt}$

$$A = \$500 (1 + \frac{0.03}{1})^{1 \times 5} = \underline{\hspace{2cm}}$$

- 2 Notice that the compound interest formula calculates both principal and interest. Subtract to find the amount of interest earned.

$$\underline{\hspace{2cm}} - \$500.00 = \underline{\hspace{2cm}}$$

- 3 Compare the two interest amounts.

Example *N* The price of gasoline increased from \$1.59 per gallon to \$1.63 per gallon. Find the percent increase. Round to the nearest whole number.

Answer: _____

Remember . . .

Change decimal answers to percents by moving the decimal point two places to the right.

$$5.0 = 500\%$$

Step-By-Step

1 Subtract to find how much the price increased.

$$\$1.63 - \$1.59 = \underline{\hspace{2cm}}$$

2 Divide the increase by the original price.

$$\$0.04 \div \$1.59 = \underline{\hspace{2cm}}$$

3 Convert the answer as a percent by multiplying by 100.

$$\underline{\hspace{2cm}} \times 100 = \underline{\hspace{2cm}}\%$$

4 Round to the nearest whole percent.

Try It Now try these problems on your own.

31 The temperature was 95°F at noon. By 9 P.M. the temperature had dropped to 76°F. Find the percent decrease in temperature. Round to the nearest whole percent.

Answer: _____

32 Rick earns 3% commission on his sales at Blastem Stereos. Rick sold \$5,250 in merchandise this week. How much did he earn in commission? Round to the nearest whole cent. (Hint: To find commission, calculate the percent of the total sales amount.)

- A \$1,750.00 C \$157.50
- B \$1,575.00 D \$15.75

33 Find the simple interest earned on \$50 at 4.5% if the money is left in the account for 100 years.

- A \$22,500 C \$225
- B \$2,250 D \$22.50

34 Find the compound interest earned on \$50 at 4.5% if the money is left in the account for 100 years and interest is compounded annually. Round to the nearest cent.

- A \$4,079.43 C \$225.00
- B \$4,029.43 D \$81.59

35 Jane’s Gift Emporium has a profit margin of 37.4%. That means that the profit, or the amount of money left over after paying expenses, is 37.4% of sales. If Jane’s sales were \$10,578 last month, how much were her profits? Round to the nearest cent.

Answer: _____

36 Jane’s price for a greeting card is \$0.75. The sales price is \$2.25. Find the percent of the markup, or price increase, for a greeting card.

Answer: _____

Mastery Test 1

Estimated time: 20 minutes

Directions: For a multiple-choice question, choose the best answer.
For a short answer question, write your answer on the line.

Questions 1–4: Write the numbers in scientific notation.

1 41,517,000 _____

2 0.013 _____

3 0.000008 _____

4 600,410,000,000 _____

5 Which symbol completes this comparison expression?

$$7.019 \times 10^2 \square 1.6 \times 10^3$$

A =

C >

B <

D \geq

6 Find the difference between -4 and -8 .

Answer: _____

7 Papers Galore has a case of wrapping paper in stock. The case holds 144 rolls of paper. If each roll sells for \$2.79, how much will the store earn from selling the whole case?

A \$401.76

C \$125.36

B \$232.46

D \$25.92

8 Keshon got a loan for \$4,000 to buy a car. It will take him 3 years to pay off the loan. He will be charged 6.5% simple interest on the amount of the loan. How much interest will he pay over 3 years?

Answer: _____

Questions 9–12: Write each fraction as a decimal and as a percent.

9 $\frac{3}{5}$ Decimal: _____ Percent: _____

10 $\frac{9}{10}$ Decimal: _____ Percent: _____

11 $\frac{7}{25}$ Decimal: _____ Percent: _____

12 $\frac{7}{8}$ Decimal: _____ Percent: _____

13 Which shows 0.28 as a fraction in simplest form?

A $2\frac{4}{5}$

C $\frac{7}{250}$

B $\frac{7}{25}$

D $\frac{28}{100}$

14 Alicia bought a \$200 rug on sale for 20% off. How much did she pay for the rug?

Answer: _____

15 Ellen earns 2.5% commission on the sale of a home. She recently sold a house for \$170,000. How much did she earn in commission?

A \$4.25

C \$425.00

B \$42.50

D \$4,250.00

16 A stock started the day at a price of $18\frac{3}{8}$. During the day the price fell by $2\frac{7}{16}$. What was the closing price of the stock?

A $15\frac{15}{16}$

C $16\frac{5}{8}$

B $16\frac{1}{2}$

D $20\frac{13}{16}$

17 Simplify $(-3)^3$.

- A -33 C -9
B -27 D 9

18 On Monday, 538 students bought lunch in the cafeteria. On Tuesday, 478 students bought lunch. Find the percent decrease in students buying lunch rounded to the nearest whole percent.

Answer: _____

19 $6\frac{2}{3} \div 5\frac{7}{9} =$

Answer: _____

20 Find the sum of the following numbers.

2.38 238 23.8 0.238

- A 9.52 C 236.436
B 28.598 D 264.418

21 Out of 364 days, there were 239 days of sunshine. Estimate the percentage of sunny days.

- A 50% C 75%
B 65% D 80%

22 The profit margin on sales at Music Haven is 17.5%. The total sales last month were \$11,578.89. How much profit was earned? Round to the nearest cent.

Answer: _____

23 Gwen opened a Certificate of Deposit (CD) at her bank with \$500. The CD earns 3.75% interest compounded monthly. How much will be in the account after 18 months, rounded to the nearest cent? Use a scientific calculator. (Hint: Since the interest is compounded monthly, $n = 12$ and $t = 1.5$ because 18 months = 1.5 years.)

Answer: _____

24 As an employee of Willard's Department Store, Rick received a 5% discount off all his purchases. He bought a present for his mom that would normally cost \$19.99. How much did Rick have to pay, before tax? Round to the nearest cent.

- A \$1.00 C \$18.99
B \$18.00 D \$19.94

25 Ken can earn 7.5% simple interest or 4% compound interest on his savings account. He's planning to make a deposit of \$250 and will not withdraw from the account for 3 years. If the compound interest is compounded quarterly (4 times a year), which interest rate should he choose to earn the most interest?

Answer: _____



Total Correct: _____ / 25

Review,
Practice,
& Mastery of

Teacher Guide • Grade 7

CALIFORNIA MATHEMATICS STANDARDS



PERFECTION LEARNING®

For the Teacher

The *Review, Practice, and Mastery* program is a refresher course. It provides a self-directed approach to reviewing and practicing the California Content Standards. Use the following steps to incorporate *Review, Practice, and Mastery* into your classroom.

1. Have students take the Tryout Test and check their answers. Then have them use the reproducible Skills Chart on page 14 of this teacher guide to assess their strengths and weaknesses in the areas covered. (The chart below is also available in the student book.) You may also wish to have students enter their answers in the reproducible Student Information and Answer Sheet on pages 16–18 of this teacher guide.
2. Have students work through the lessons, paying close attention to the areas in which they need improvement. You will see that each lesson page correlates to one or more of the California Content Standards. Each lesson is followed by a Mastery Test that focuses on the skills covered in the lesson. Have students fill in the Charting Your Progress chart on page 104 of the student book after they complete each test.
3. After completing all the lessons, have students take the Final Mastery Test to check their progress. They can also enter their answers on the reproducible Student Information and Answer Sheet on pages 19–21 of this teacher guide.

The chart that begins on page 22 of this teacher guide correlates the lessons to the California Content Standards.

Lesson	Tryout Test Items	Final Mastery Test Items
1 Number Sense	1, 2, 4, 5, 7, 8, 9, 10, 11, 14, 25, 27, 43	1, 2, 4, 5, 7, 8, 9, 10, 11, 14, 24, 26, 46
2 Operations	16, 18, 20, 22, 30, 51	16, 18, 19, 21, 29, 30, 52
3 Algebra	6, 12, 13, 21, 23, 24, 26, 28, 29, 39	6, 12, 13, 20, 22, 23, 25, 27, 28, 41
4 Graphing	33, 34, 35, 37, 38, 46, 60	31, 35, 36, 37, 38, 39, 49, 60
5 Measurement	31, 32, 36, 40, 41, 42, 44, 45, 48, 49	32, 33, 40, 42, 43, 44, 45, 47, 48, 51
6 Geometry	3, 15, 17, 50, 52, 53, 54, 55, 56, 57, 58, 59	3, 15, 17, 34, 53, 55, 56, 57, 58, 59
7 Statistics	19, 47, 61, 62, 63	50, 54, 61, 62, 63

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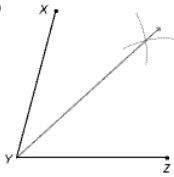
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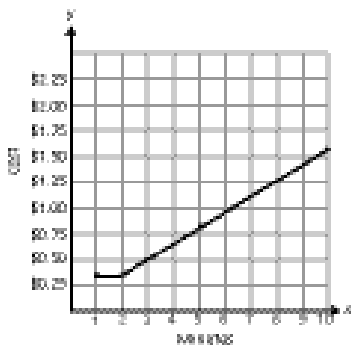
Answer Key

Tryout Test (p. 4)

1. C
2. D
3. A
4. A
5. $\frac{3}{4}$ cup
6. D
7. $8\frac{2}{3}$ yards or 26 feet
8. 2.875; 287.5%
9. D
10. $\frac{16}{125}$
11. 3% simple interest
12. $s + s + 15 = 65$;
Julia has 40 stamps.
13. D
14. B
- 15.

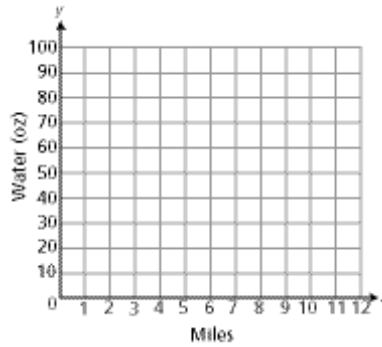


16. $\frac{1}{5^6}$
17. A
18. A
19. D
20. $\sqrt{188}$ is between
13 and 14.
21. C
22. B
23. $5n - 6$
24. $8x^2/9y^3$
25. C
26. B
27. \$178.13
28. B
29. B
30. C
31. A
32. A
33. D
34. $C = \$0.35 + \$0.15(m - 2)$

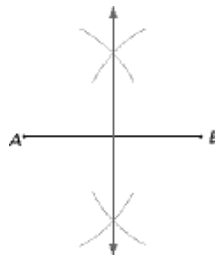


35. A
36. B
- 37.

Miles	Water (oz)
3	20
6	40
9	60
12	80

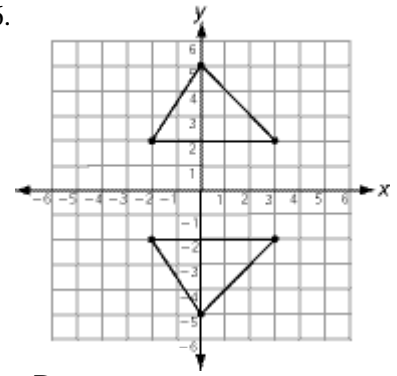


38. $\frac{20}{3}$ or $6\frac{2}{3}$
39. D
40. C
41. $143\frac{3}{4}$ miles
42. B
43. B
44. 296.73 cm^2
45. C
46. A
47. A
48. C
49. B
50. A
51. A
52. D
53. *Students should complete perpendicular bisector similar to the one shown.*

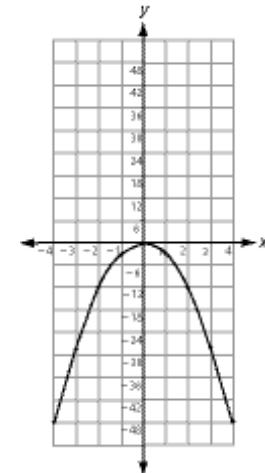


54. A
55. B

56.



57. D
58. C
59. D
60. *Students should plot the following graph.*

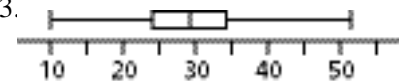


61.

Stem	Leaves
1	0, 2, 5, 9
2	5, 6, 6, 7, 9, 9
3	1, 1, 3, 3, 5, 8
4	0, 5
5	2

62. C

63.



Lesson 1

Number Sense

Using Scientific Notation (p. 12)

Ex. A C

1. 4.125×10^7
2. 4.109×10^{-4}
3. 5.1×10^4
4. 270,000
5. 0.005
6. D

Calculating with Rational**Numbers** (p. 13)*Ex. B* B*Ex. C* C*Ex. D* A*Ex. E* D

7. C

8. A

9. D

10. \$12.50

11. $6\frac{1}{12}$ yards

12. \$6.22

13. B

14. C

15. D

16. B

17. A

18. 9th floor

**Equivalent Fractions, Decimals,
and Percents** (p. 16)*Ex. F* .375; 37.5%*Ex. G* 62.5%*Ex. H* C

19. 0.75; 75%

20. 0.125; 12.5%

21. 0.45; 45%

22. 40%

23. D

24. Divide by 100

25. 75%

Identifying Rational**Numbers** (p. 18)*Ex. I* D*Ex. J* B*Ex. K* 0.8; terminating

0.9166...; repeating

0.1666...; repeating

0.777...; repeating

26. 3.875, $\frac{5}{178}$; 14.151515...;
-4.6

27. A

28. C

29. A

30. Possible answers: $\sqrt{4}$;
 $\sqrt{9}$ **Calculating with Percentages** (p. 20)*Ex. L* \$41.35*Ex. M* Beth will earn more at
3% compounded annually*Ex. N* 3%

31. 20%

32. C

33. C

34. A

35. \$3,956.17

36. 200%

Mastery Test 1 (p. 22)1. 4.1517×10^7 2. 1.3×10^{-2} 3. 8.0×10^{-6} 4. 6.0041×10^{11}

5. C

6. 4

7. A

8. \$780.00

9. 0.6; 60%

10. 0.9; 90%

11. 0.28; 28%

12. 0.875; 87.5%

13. B

14. \$160

15. D

16. A

17. B

18. 11%

19. $1\frac{2}{13}$

20. D

21. B

22. \$2,026.31

23. \$528.88

24. C

25. 4% compound interest

LESSON 2
Operations**Working with Exponents** (p. 24)*Ex. A* C*Ex. B* D*Ex. C* 1251. $\frac{1}{2^3}$ 2. $\frac{1}{6^3}$ 3. $\frac{1}{10^4}$ 4. $\frac{1}{125}$ 5. $\frac{1}{1,000,000}$ 6. $\frac{1}{256}$ 7. 3^{-6} 8. 6^4 9. 100^{-3} 10. $\frac{6}{5^5}$ 11. 4^{10} or 1,048,576

12. 36

13. 9

14. D

15. B

16. C

17. C

Using Exponents to Solve Problems

(p. 27)

Ex. D C*Ex. E* B18. 6^2 19. 10^2 20. 2^7

21. C

22. A

23. $\frac{5^2}{5^3} \div \frac{5^4}{5} =$ $\frac{5^2}{5^3} \times \frac{5}{5^4} = \frac{5^3}{5^7} = \frac{1}{5^4}$ 24. 4^3 **Adding and Subtracting****Fractions** (p. 29)*Ex. F* $1\frac{7}{36}$ 25. $\frac{35}{60} + \frac{21}{60} = \frac{56}{60}$; $\frac{14}{15}$ 26. $\frac{4}{24} - \frac{4}{24} = \frac{1}{24}$; $\frac{1}{24}$ **Exponents and Roots** (p. 30)*Ex. G* $\sqrt{169} < \sqrt{193} < \sqrt{196}$

27. 25, 81, 121, 225, and 400

28. yes; 45

29. B

30. 355 is not a perfect square.

The value of $\sqrt{355}$ is

between 18 and 19.

Absolute Value (p. 31)*Ex. H* 4, 4, -4

31. 9

32. 17

33. -17

34. A

35. D

36. Possible answers: |21| and

|-21|