

5th Grade Math Study Guide

Credit by Exam for Credit Recovery or Acceleration

The exam you are interested in taking is designed to test your proficiency in the relevant subject matter. You should be thoroughly familiar with the subject matter before you attempt to take the exam. This CBE CR/A Study Guide can help you prepare for the exam by giving you an idea of what you need to review. You can check your familiarity level by reviewing the Texas Essential Knowledge and Skills (TEKS) for this course (see below). To refine your skills, you can refer to any of the state-adopted textbooks.

Texas Essential Knowledge and Skills (TEKS)

Every question that appears on this exam is derived from the knowledge and skills statements and student expectations within the Texas-mandated standards, the Texas Essential Knowledge and Skills (TEKS). You can view the TEKS for this exam online via the following link: <http://ritter.tea.state.tx.us/rules/tac/chapter111/ch111a.html#111.7>. Refer to section (b), Knowledge and skills, 1A–10F.

Throughout this guide, you'll see TEKS references. These refer to the numbers listed under (b) Knowledge and skills; for example, 1A or 3B.

Materials Needed

Paper exams

You will need to bring a #2 pencil to complete the exam. You will receive a computer-graded answer sheet when you arrive at the testing center.

Online Exams

If necessary, materials will be provided by the testing center.

Exam Structure

You will be allowed **3 hours** to complete this exam. The exam consists of 50 multiple-choice questions that are equally weighted. You will be allowed two short, monitored breaks during the exam. The exam covers the following 5 Objectives:

Objective 1: Number and Operations (17 questions)

Objective 2: Algebraic Reasoning (9 questions)

Objective 3: Geometry and Measurement (12 questions)

Objective 4: Data Analysis (6 questions)

Objective 5: Personal Financial Literacy (6 questions)

Scholastic Honesty

When you arrive at the testing center, you will be asked to carefully read the exam rules and sign a statement agreeing to take the exam in accordance with the rules. This is called the Examinee's Certification. The following is a copy of these rules:

Examinee's Certification

This certification must be signed *before* the exam is administered and then returned with the completed examination attached, or credit for the exam will not be given.

Scholastic dishonesty is a serious academic violation that will not be tolerated. Scholastic dishonesty encompasses, but is not limited to:

- copying from another student's work;
- using an unauthorized testing proctor or taking the exam at an unauthorized testing location;
- using materials not authorized by a testing proctor;
- possessing materials that are not authorized by a testing proctor, such as lessons, books, or notes;
- knowingly using or soliciting, in whole or part, the contents of an unadministered test;
- collaborating with or seeking aid from another student without authorization during the test;
- substituting for another person, or permitting another person to substitute for oneself, in taking a course test or completing any course-related assignment;
- using, buying, stealing, or transporting some or all of the contents of an unadministered test, test rubric, homework answer, or computer program.

Evidence of scholastic dishonesty will result in a grade of *F* on the examination and an *F* in the course (if applicable).

At the testing center, you will be asked to sign a statement that says you have read the above and agree to complete the examination with scholastic honesty.

General Study Tips

The bulleted lists and sample questions in this study guide can assist you in preparing for the exam. It is a fairly complete guide, but does not cover every item on the test. Ultimately, you should use the TEKS to guide your exam preparation.

Additional Study Tips

The following information provides direction for your studies. For each part, you will find study tips and sample questions to give you a general idea of the types of questions you can expect to see on the exam.

Objective 1: Numbers and Operations

This part relates to your knowledge of how to represent, count, and compare whole numbers, and find relationships within the numeration system. It includes 17 questions.

Study Tips for Objective 1

This part relates to TEKS 2A–3L. Familiarize yourself with those TEKS, and then be prepared to demonstrate knowledge of the following topics:

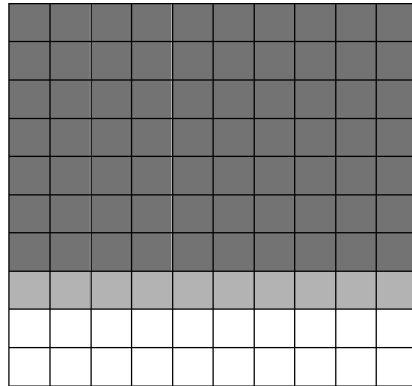
- Represent the value of a digit with expanded notation
- Compare and order two decimals to thousandths
- Round decimals to tenths or hundredths
- Estimate to determine solutions to mathematical and real-world problems
- Multiply a three-digit number by a two-digit number using the standard algorithm
- Multiply decimals with products to the hundredths using strategies and pictorial models
- Multiply a fraction and a whole number using pictorial models
- Divide whole numbers up to a four-digit dividend by a two-digit, whole number divisor using strategies and the standard algorithm, where quotients can be up to the hundredths
- Divide a unit fraction by a whole number and a whole number by a unit fraction
- Add and subtract positive rational numbers fluently

Sample Questions for Objective 1

The following are sample questions. You can find the correct answers listed at the end of this study guide, but try answering the questions without looking at the answers first to check your comprehension.

DIRECTIONS: Select the **BEST** response to each of the following questions.

1. Jeffrey has 0.8 of a gallon of milk. He drinks 0.7 of this amount of milk. The square below represents 1 gallon of milk.



How much milk did Jeffrey drink?

- A. 0.15 gallon
B. 0.56 gallon
C. 1.5 gallon
D. 5.6 gallons
2. Jose bought plane tickets for \$1,972. If he makes 16 equal payments, how much will each payment be?
- A. \$123.25
B. \$123.40
C. \$132
D. \$1,988

Objective 2: Algebraic Reasoning

This part relates to your knowledge of identifying patterns in the number word list. It includes 9 questions.

Study Tips for Objective 2

This part relates to TEKS 4A-4H. Familiarize yourself with those TEKS, and then be prepared to demonstrate knowledge of the following topics:

- Identify prime and composite numbers
- Solve for equations with a letter standing for the unknown quantity
- Generate a numerical pattern when given a rule in the form $y = ax$ or $y = x + a$ and graph
- Recognize the difference between additive and multiplicative numerical patterns given in a table or graph
- Simplify numerical expressions that do not involve exponents
- Understand the meaning of the formulas for the volume of a rectangular prism
- Solve problems related to perimeter and/or area and related to volume

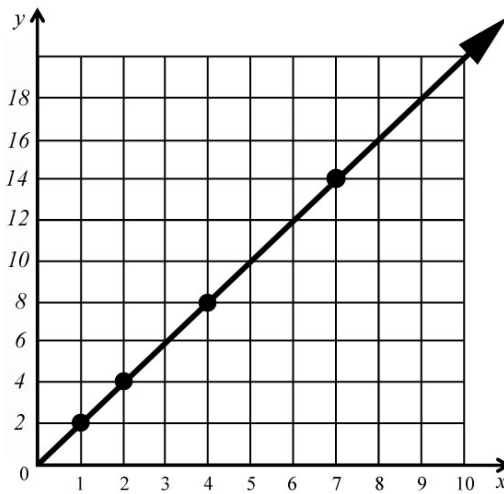
Sample Questions for Objective 2

The following are sample questions. You can find the correct answers listed at the end of this study guide, but try answering the questions without looking at the answers first to check your comprehension.

DIRECTIONS: Select the BEST response to each of the following questions.

3. The table and graph below represents $y = 2x$.

x	y
1	2
2	4
4	8
7	14



If the pattern were to continue, what would be the value of x if $y = 18$?

- A. 6
- B. 9
- C. 12
- D. 36

4. Simplify the following expression.

$$[18 - (6 \div 2)] + 5 \times 2$$

- A. 16
- B. 20
- C. 25
- D. 40

Objective 3: Geometry and Measurement

This part relates to your knowledge of the attributes and properties of two-dimensional shapes and three-dimensional solids and the ability to compare their measurable attributes and properties. It includes 12 questions.

Study Tips for Objective 3

This part relates to TEKS 5-8C. Familiarize yourself with those TEKS, and then be prepared to demonstrate knowledge of the following topics:

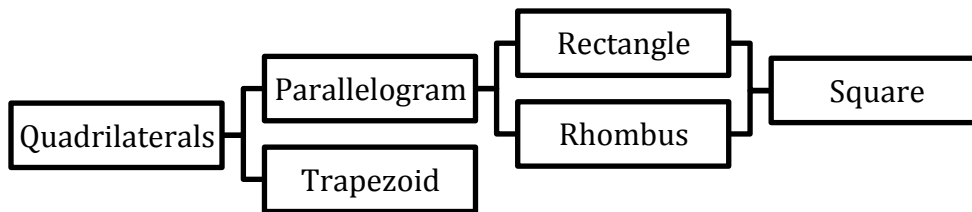
- Classify two-dimensional figures in a hierarchy of sets and subsets
- Define and determine the volume of a rectangular prism
- Solve problems by calculating conversions within the same measurement system
- Describe the key attributes of the coordinate plane
- Describe the process for graphing ordered pairs of numbers in the first quadrant of the coordinate plane
- Graph in the first quadrant of the coordinate plane ordered pairs of numbers

Sample Questions for Objective 3

The following are sample questions. You can find the correct answers listed at the end of this study guide, but try answering the questions without looking at the answers first to check your comprehension.

DIRECTIONS: Select the **BEST** response to each of the following questions.

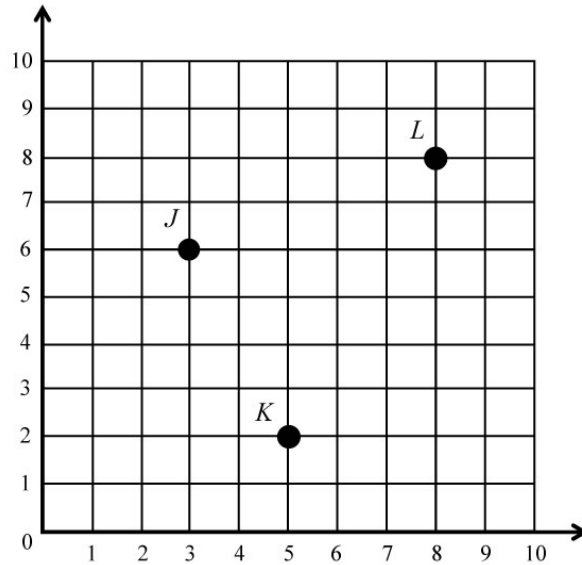
5. Look at the hierarchy of quadrilaterals below.



Which of the following is **NOT** a type of parallelogram?

- A. A rectangle, because it has four right angles.
- B. A rhombus, because it is a type of rectangle.
- C. A square, because it has four congruent sides.
- D. A trapezoid, because it has only one pair of parallel sides.

6. Look at the coordinate grid below.



If Jerry were to explain how to locate *Point J* on the coordinate plane, how would he explain it?

- A. Start at the origin. Move parallel to the x-axis 3 units. Then move parallel to the y-axis 6 units.
 - B. Start at the origin. Move parallel to the x-axis 2 units. Then move parallel to the y-axis 5 units.
 - C. Start at the origin. Move parallel to the x-axis 6 units. Then move parallel to the y-axis 3 units.
 - D. Start at the origin. Move parallel to the x-axis 8 units. Then move parallel to the y-axis 8 units.
7. How many gallons are equivalent to 112 cups?

- A. 4
- B. 7
- C. 14
- D. 28

Objective 4: Data Analysis

This part relates to your knowledge of collecting, organizing, and interpreting data. It includes 6 questions.

Study Tips for Objective 4

This part relates to TEKS 9A-9C. Familiarize yourself with those TEKS, and then be prepared to demonstrate knowledge of the following topics:

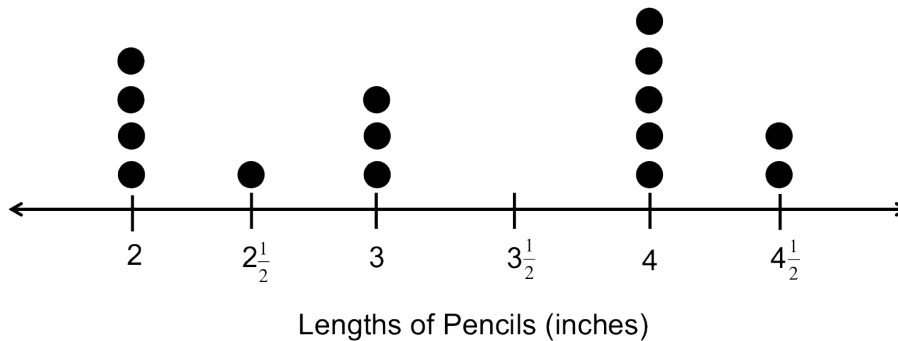
- Represent categorical data with bar graphs, frequency tables, scatterplots, dot plots or stem-and-leaf plots
- Solve one- and two-step problems using data from a frequency table, dot plot, bar graph, stem-and-leaf plot, or scatterplot

Sample Questions for Objective 4

The following are sample questions. You can find the correct answers listed at the end of this study guide, but try answering the questions without looking at the answers first to check your comprehension.

DIRECTIONS: Select the **BEST** response to each of the following questions.

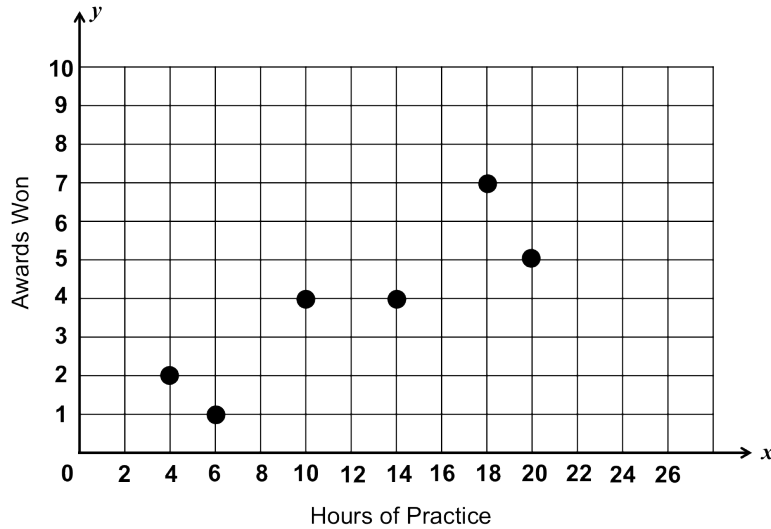
8. The dot plot below shows the different lengths of pencils in Martin's class to the nearest half inch.



What is the difference between the number of pencils in Martin's class that are more than $3\frac{1}{2}$ inches and the number of pencils that are less than 3 inches?

- A. 1
- B. 2
- C. 3
- D. 4

9. Kevin asked different gymnastics team members how many hours of practice they get each week and how many awards they've won. The scatterplot below shows the data Kevin collected.



Which of the following tables matches the data in the scatterplot?

A.

Hours of Practice	2	1	4	4	7	5
Awards Won	4	6	10	14	18	20

B.

Hours of Practice	18	10	20	4	7	18
Awards Won	7	5	5	2	18	7

C.

Hours of Practice	10	6	2	18	4	5
Awards Won	4	1	4	7	10	20

D.

Hours of Practice	6	10	18	4	20	14
Awards Won	1	4	7	2	5	4

Objective 5: Personal Financial Literacy

This part relates to your knowledge of managing financial resources. It includes 6 questions.

Study Tips for Objective 5

This part relates to TEKS 10A-10F. Familiarize yourself with those TEKS, and then be prepared to demonstrate knowledge of the following topics:

- Define income tax, payroll tax, sales tax, and property tax
- Explain the difference between gross income and net income
- Identify the advantages and disadvantages of different methods of payment, including check, credit card, debit card, and electronic payments
- Develop a system for keeping and using financial records
- Describe actions that might be taken to balance a budget when expenses exceed income
- Balance a simple budget

Sample Questions for Objective 5

The following are sample questions. You can find the correct answers listed at the end of this study guide, but try answering the questions without looking at the answers first to check your comprehension.

DIRECTIONS: Select the BEST response to each of the following questions.

10. Susan found the receipt shown below in her backpack.

Sam's Grocery	
pencils	\$2.49
toothpaste	\$1.89
gum	\$1.09
Subtotal	\$5.47
Tax	\$0.25
Total	\$5.72

What type of tax did Susan pay on the purchase?

- A. Sales tax
- B. Payroll tax
- C. Income tax
- D. Property tax

11. Mike wants to use his credit card to purchase a new TV. Which of the following is a disadvantage of paying with a credit card?
- A. It is fast and easy.
 - B. He could buy the TV online.
 - C. He may have to pay interest for the purchase.
 - D. He could earn rewards or points for using his card.

Answer Key

Item Number	Correct Answer	TEKS expectation
1	B	3D
2	A	3G
3	B	4C, 4D
4	C	4E, 4F
5	D	5A
6	A	8A, 8B
7	B	7
8	B	9C
9	D	9A, 9B
10	A	10A
11	C	10C