

Colorado Measures of Academic Success



Grade 6 Mathematics



Paper Practice Resource for Students

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The Colorado Measures of Academic Success (CMAS) is Colorado’s standards-based assessment program designed to measure the Colorado Academic Standards (CAS) in the content areas of science, social studies, English language arts, and mathematics. The sample items included in this resource provide students with an opportunity to become familiar with the format of test items that appear in the paper-based test books.

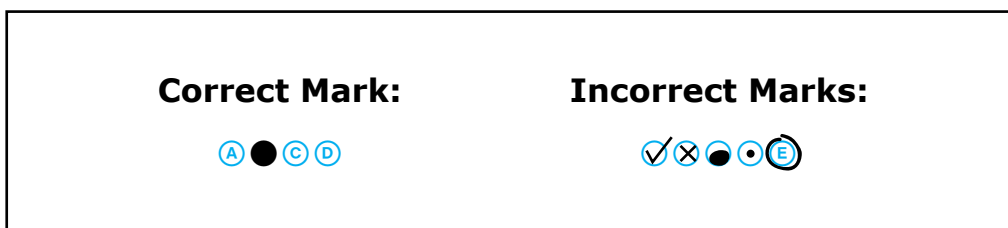
While the use of the sample items is not required, it is strongly encouraged to help ensure students are familiar with the types of items they may encounter while taking the paper-based test.

The sample item sets in the CMAS Practice Resources are not intended to be representative of a complete unit or test, nor are they intended to cover all assessed content or item types. To view assessment frameworks, high level blueprints, scoring rubrics, evidence statements and standards for the CMAS assessments, visit: https://www.cde.state.co.us/assessment/cmas_testdesign.

Item Types:

Selected Response Items

Selected response items are multiple choice questions. To respond, the student indicates their response in an answer grid or by filling in the circle(s) next to their answer choice.



Constructed Response Items

Constructed response items are questions or prompts that require an independent, written response. To respond, the student writes his or her answer in the response box in the test book.

Converted Online Technology-Enhanced Item Types

Online technology-enhanced items converted to the paper testing format may ask students to:

- Circle the correct answer
- Complete a table with checkmarks, Xs, or letters from a list of answer choices
- Fill in the blank
- Draw lines from boxes to correct answers
- Complete a bar graph or histogram
- Interact with a number line
- Graph points and lines on a coordinate grid
- Divide and shade shapes to indicate fractions

Directions for Completing the Answer Grids

1. Work the problem and find an answer.
2. Write your answer in the boxes at the top of the grid.
3. Print only one number or symbol in each box. Do not leave a blank box in the middle of an answer.
4. Under each box, fill in the circle that matches the number or symbol you wrote above. Make a solid mark that completely fills the circle.
5. Do not fill in a circle under an unused box.
6. Fractions cannot be entered into an answer grid and will not be scored. Enter fractions as decimals.
7. See below for examples on how to correctly complete an answer grid.

EXAMPLES

To answer -3 in a question, fill in the answer grid as shown below.

-	3				
<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

To answer $.75$ in a question, fill in the answer grid as shown below.

.	7	5			
<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

OR

0	.	7	5		
<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

ITEM SET 1 - SECTION 1 (Non-Calculator)

Directions:

This Item Set has two sections: a non-calculator section and a calculator section. You will now take the non-calculator section. You may not use a calculator.

1. What is the value of this expression?

$$1,224 \div 16$$

- (A) 76.0
- (B) 76.2
- (C) 76.5
- (D) 76.8

2. Which number is closest to zero on a number line?

- (A) $-\frac{3}{5}$
- (B) $-\frac{2}{5}$
- (C) $\frac{1}{5}$
- (D) $\frac{4}{5}$

3. Which question is a statistical question?

- (A) Which students in an elementary school class can speak another language?
- (B) How many students in a middle school class like each type of food?
- (C) Which elementary classes is the principal visiting this week?
- (D) How many students are in a middle school?

4. A baker mixes 42.68 grams of flour and 19.125 grams of sugar in a bowl. The baker then uses 52.76 grams of the mixture in a cake.

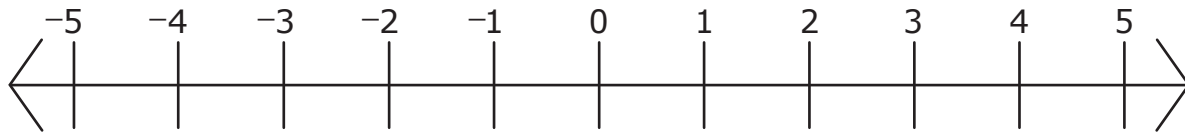
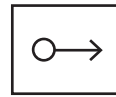
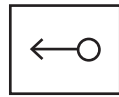
How many grams of the mixture does the baker still have?

Enter your answer in the box.

-					
.
0	0	0	0	0	0
1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6
7	7	7	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9

5. Graph the inequality that shows all the possible values of $-1 > x$.

Select the correct ray and then graph the ray beginning at the correct place on the number line.



This is the end of Item Set 1 Section 1.



ITEM SET 1 - SECTION 2 (Calculator)

You may use a calculator for Item Set 1 - Section 2.



Use the information provided to answer Part A and Part B for question 6.

A store sells cherries for \$3.70 per pound.

6. Part A

A person buys x pounds of cherries for \$7.56.

Which equation can be used to find the number of pounds of cherries the person buys?

- A $3.70 + x = 7.56$
- B $7.56 + x = 3.70$
- C $3.70x = 7.56$
- D $7.56x = 3.70$

Part B

The store changes the price of the cherries. The equation $3.70 + p = 4.66$ represents the relationship between the old and new prices of cherries, where p is the change in the price per pound of cherries.

What is the value of p in this equation?

- A 0.81
- B 0.90
- C 0.96
- D 1.23



7. What is 45% of 320?

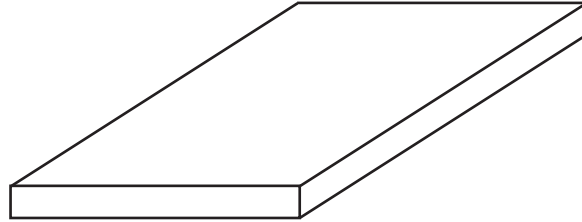
Enter your answer in the box.

-					
•	•	•	•	•	•
0	0	0	0	0	0
1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6
7	7	7	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9



8. Part A

A playground has a sandbox in the shape of a right rectangular prism. The length of the sandbox is $4\frac{1}{2}$ feet, and the width is $5\frac{1}{3}$ feet. The height of the sandbox is $\frac{1}{2}$ foot.



Playground Sandbox

What is the volume, in cubic feet, of the sandbox?

- (A) $4\frac{11}{12}$
- (B) $10\frac{1}{3}$
- (C) 12
- (D) 24

**Part B**

Another area of the playground has a soft mat for safety. The area of the rectangular mat is $9\frac{1}{3}$ square feet. The mat is $\frac{1}{4}$ -foot thick.

What is the volume, in cubic feet, of the mat?

- (A) $2\frac{1}{3}$
- (B) $9\frac{7}{12}$
- (C) $21\frac{7}{9}$
- (D) $37\frac{1}{3}$



9. Two students are comparing the decimals 13.310, 13.28, and 13.301.

Student A makes an error. He says that $13.28 > 13.301$ because 8 is greater than 1.

Student B also makes an error. He says that $13.310 < 13.28$ because 13.310 has a 3 in the tenths place and $\frac{2}{10}$ is greater than $\frac{3}{10}$.

- Explain why the reasoning for Student A is incorrect.
- Explain why the reasoning for Student B is incorrect.
- Explain or show how to order the numbers from least to greatest.
- Find the sum of the three decimals rounded to the nearest tenth.

Enter your explanations and your answer in the space provided.

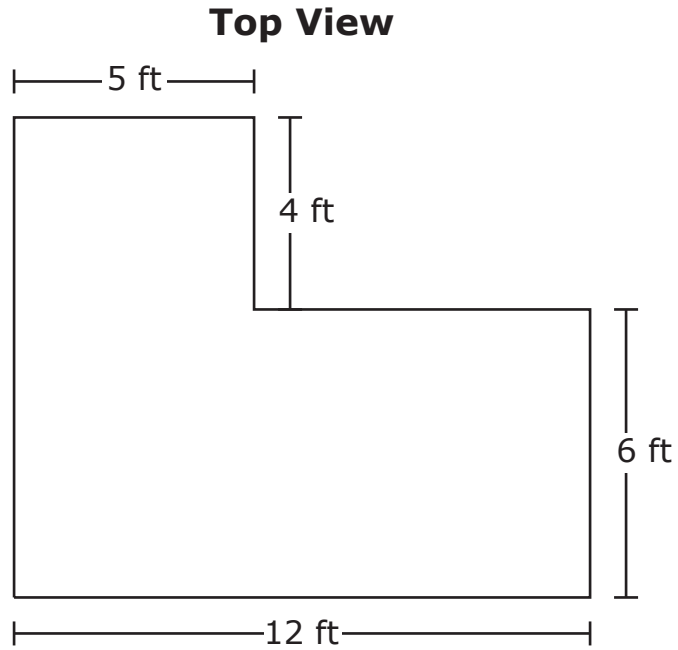


**TURN THE PAGE AND
CONTINUE WORKING**



10. Part A

An L-shaped pool is made of two right rectangular prisms. The figure shows a top view of this pool. The pool height is the same for the entire pool.



The pool is filled with water to a height of 4 feet.



- Create an equation or set of equations that can be used to find the volume, in cubic feet, of the pool.
- Explain how you created the equation or set of equations.
- Find the volume, in cubic feet, of the pool.

Enter your equation or set of equations, your explanation, and your answer in the space provided.

**Part B**

A different pool is in the shape of a right rectangular prism and has a volume of 192 cubic feet. The area of the base of the pool is 32 square feet.

- Create an equation to find the height, in feet, of the water in the pool.
- Find the height, in feet, of the water in the pool. Show your work.

Enter your equation, your answer, and your work in the space provided.

Equation: _____

Height of water: _____ **feet**

Your Work:

This is the end of Item Set 1 Section 2.

