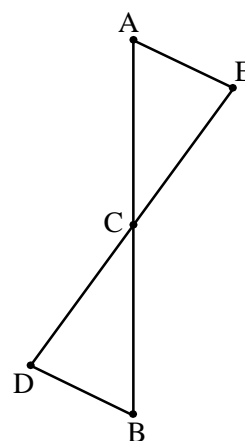
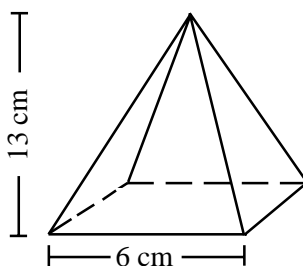
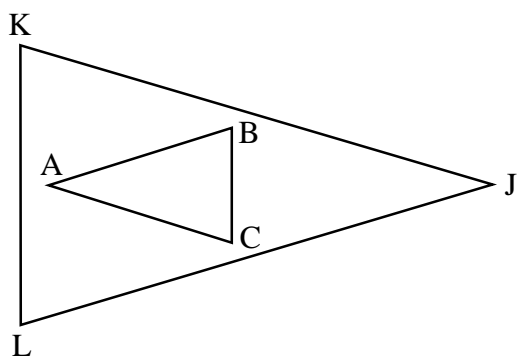


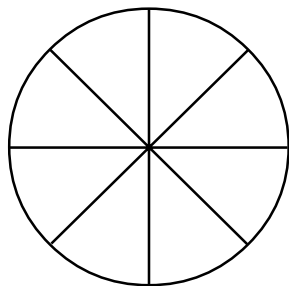
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MATHEMATICS 10

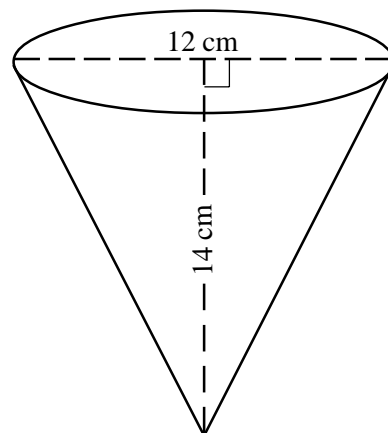
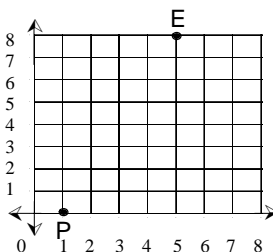
$$\frac{121}{9} \quad 4\pi \quad 1196\% \quad \sqrt{111}$$



$$5.2083 \times 10^{14} \text{ seconds}$$



$$P(d) = 2d^2 + 6d + 14$$
$$Q(d) = 2d^2 + 2d + 8$$



LEADERSHIP RESOURCES[®]

2006 Edition

Dear Educator:

This sample represents only a portion of the **LEADERSHIP RESOURCES®** Successful Test Taking® Mathematics 10 CSAP book (2006 Edition).

The actual book is 56 pages with 92 math items:
62 are multiple choice, 12 are short constructed-response,
12 are medium constructed-response, and 6 are extended constructed-response.
The book is printed on newsprint, is consumable, and is sold in a set of
30 books for \$55.00.

The teacher's guide identifies the specific **benchmark and assessment objective** each item assesses.

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Successful Test Taking[®]

Mathematics 10

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Successful Test Taking[®]

Preface

This test taking book has been developed to help you take a mathematics test, as well as review strategies you already use in mathematics.

A good test:

- A. confirms what you already know,
- B. helps you to see where you can use what you know,
- C. shows you new ideas while taking the test.

Please note that this book was made to help you learn how to prepare for and take tests. It is **not**, however, a complete model of the CSAP. This book was developed to provide you with typical items that might be tested.

Test taking is complicated. By studying tests and how they are written, you can become a better test taker. The reading, writing, and mathematics strategies you use in the classroom and in daily life can be used here as well.

As you use this book, try to do your best work. Doing your best work is a mirror of your ability and effort.

**Remember to
Use Your Common Sense**

Successful Test Taking Strategies for Answering Multiple Choice Questions

1. Read each question carefully. Try to get a “feel” for what the answer might be while you are reading the question.
2. Ask and answer, “What do I know?” “What am I being asked to do?” “Do I understand what the question is asking me to do?”
3. Carefully make any calculations.
4. There will be 4 answer choices for each item in this book. Look carefully at each choice. Mark out all incorrect answer choices.
5. If you really don’t know the answer, try using each answer choice in the question. “Plugging-in” each answer choice may help you find the **best** answer.
6. Then, mark the **best** answer right in this book by filling in the circle (bubble) to the left of the answer you chose. Completely fill in only one bubble. A correct answer is worth one point.

Successful Test Taking Strategies for Answering Constructed-Response Questions

Constructed-response questions require you to think about an answer to a problem, figure out a way to solve the problem, and then write an answer to the problem, or show how you got your answer, or perform some other task.

Constructed-response questions require you to explain why you chose the answer you did or show how you arrived at your answer.

There are three kinds of constructed-response questions:

Short constructed-response items have you write a short answer or calculate a solution to a problem. You will spend about 5 minutes on these items. A complete answer is worth 2 points.

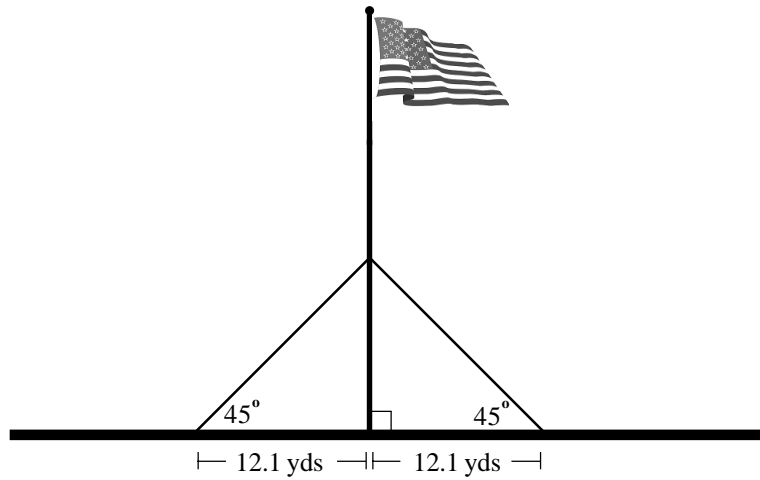
Medium constructed-response items are more challenging than the short-response items and take about 10 minutes to complete. A complete answer is worth 3 points.

Extended constructed-response items are the most challenging and need a longer answer, such as writing a detailed explanation or solving a multi-step problem. You will spend about 15 minutes on these items. A complete answer is worth 4 points.

1. **THINK:** Read all questions carefully. Ask yourself, "What do I know?" "What is the question asking me to do?"
2. **SOLVE:** Use the strategies you know best to help you solve the problem:
 - Brainstorm for ideas and strategies by recalling what you already know.
 - Use all the information given in the problem. Decide what is important and what is not.
3. **EXPLAIN:** Remember, someone will be reading your answers to constructed-response questions. Clearly and completely explain why or show how you chose the answer you did. Explain or show all the steps you took. Do not erase any of your work.
4. Make sure your explanation is clear and complete so that the person who reads your answer understands your thinking.
5. Check your work to make sure you have answered each part of the question and have given all the information asked for by the question.

1

The flagpole at City Hall is supported by two wires, as shown below.

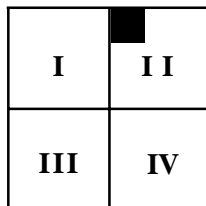


What is the length, to the nearest hundredth of a yard, of each of the flagpole's support wires?

- 6.50
- 12.10
- 17.11
- 34.22

2

A computer chip engineer is able to store 450,000 bits of data in the shaded portion of quadrant II of the computer chip, shown below.

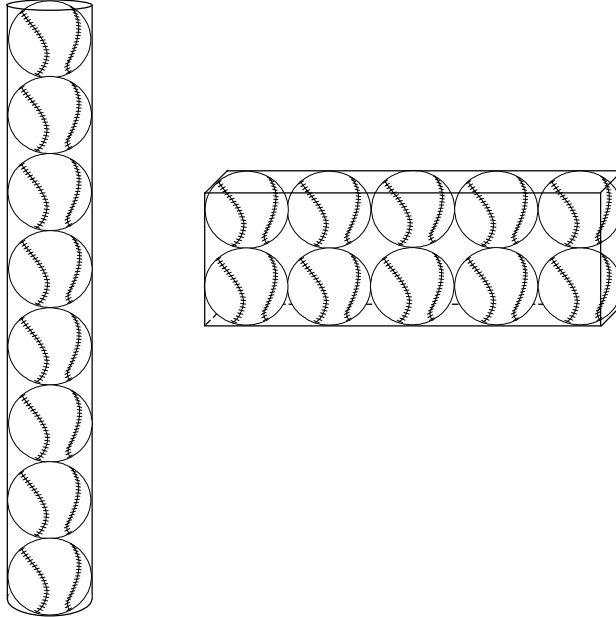


How many bits of data would you estimate the chip engineer could store on the entire computer chip?

- 400,000
- 1,600,000
- 4,000,000
- 16,000,000

8

A company that makes baseballs packages the balls in two different clear plastic containers. One container is in the shape of a rectangular prism and encloses 10 baseballs. The other container is in the shape of a cylinder. It encloses 8 baseballs. All the baseballs measure 2.5 inches in diameter. (The balls in each container are packed so that each touches another, as shown below.)

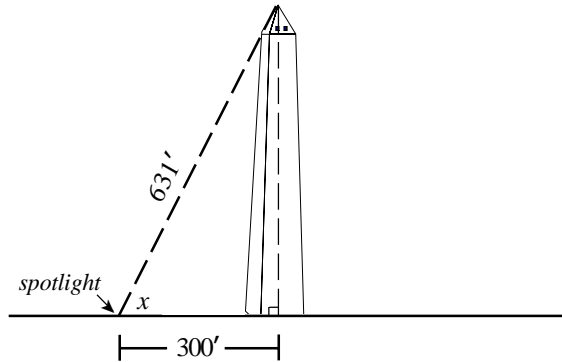


Which container requires less plastic to manufacture? Explain your answer.



20

One of the in-ground spotlights that shines on the Washington Monument in Washington D.C. beams its light 631 feet to the top of the monument. The spotlight is 300 feet from the center of the base of the monument, as shown below. What angle (x), in degrees, does the beam of light from the spotlight make with the ground? Explain your answer. (Round to the nearest degree.)



21

Order the real numbers below from least to greatest.

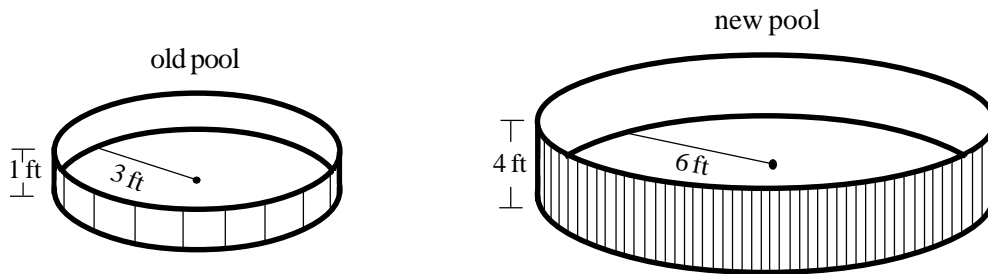
$$\frac{121}{9} \quad 4\pi \quad 1196\% \quad \sqrt{111}$$

- 4π $\sqrt{111}$ 1196% $\frac{121}{9}$
- $\sqrt{111}$ 1196% 4π $\frac{121}{9}$
- 1196% $\sqrt{111}$ $\frac{121}{9}$ 4π
- $\frac{121}{9}$ $\sqrt{111}$ 1196% 4π



59

Mr. Green is planning to fill his children's new swimming pool with water. He wants to determine how long it will take to completely fill the new pool. Yesterday it took Mr. Green 20 minutes to completely fill the old pool with water from the Green's outdoor water faucet.



How long will it take Mr. Green to fill the new swimming pool, if the water flow from the faucet is the same as it was yesterday? Explain your answer.

60

A yogurt company is doing a sales promotion for a new flavor of yogurt. The yogurt is sold in a small plastic container that is fitted with a lid. On the inside of each lid, one of 8 different prizes is listed. The prizes are listed evenly and randomly on the lids of all the containers of the new flavored yogurt. If two containers of the yogurt are purchased, what is the probability that the prizes listed on the inside of the lids will be different?

- $\frac{1}{8}$
- $\frac{8}{7}$
- $\frac{4}{8}$
- $\frac{7}{8}$



40

Last year, A-1 Video Store charged an annual membership fee of \$20.00, plus \$1.50 per video rental. For all of last year, Paloma spent a total of \$63.50 at A-1 Video Store. This year, A-1 is changing the amount it charges per video rental to \$2.25. The annual membership fee will not change. If Paloma rents the same amount of movies she rented last year, how much more money will Paloma spend this year at A-1 Video Store?

- \$21.75
- \$41.75
- \$65.25
- \$85.25

42

You might have heard the expression, “I’ve got a million and one things to do!” If it took someone 5 minutes to do each thing, approximately how long would it take that person to do the million and one things?

- 5,000 days
 - 95,000 hours
 - 150 months
 - 9.5 years
-

68

Bret is in the 10th grade. So far this year, Bret has math test scores of 84%, 85%, 96%, 90%, 100%, 91%, and 88% from seven tests, each of which were worth 100 points. The math final exam counts as two tests and is worth 200 points. How many points does Bret need on the final exam to bring his average up to 92%? Explain your answer.

69

Romeo and Juliet went to the local bookstore and purchased some books, as shown in the table below.

BOOKS PURCHASED

	# of books purchased written by Ernest Hemingway	# of books purchased written by Maya Angelou	Total Spent (in dollars)
Romeo	2	5	\$95.25
Juliet	4	1	\$62.25

Based on the chart, what is the price, in dollars, of one book written by Maya Angelou?

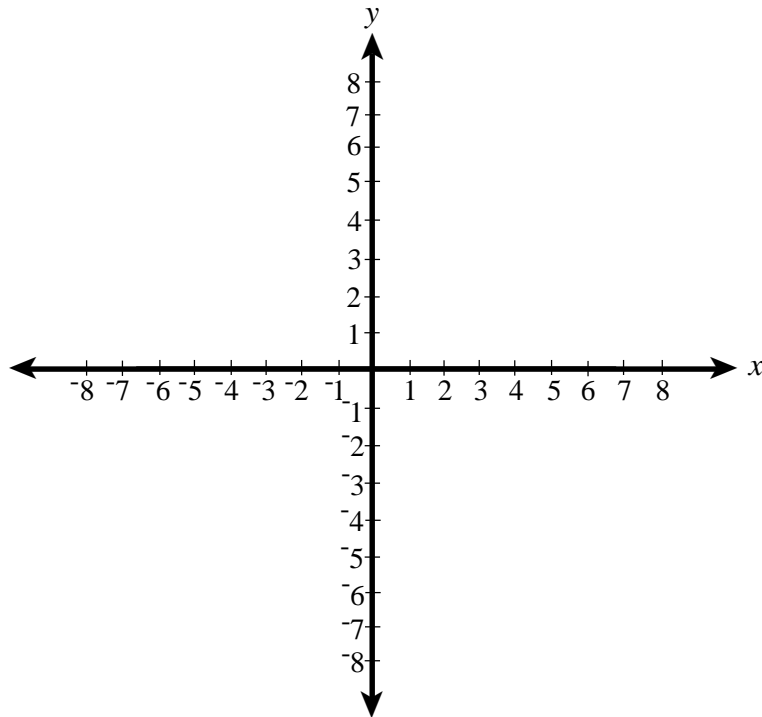
- \$12.00
- \$14.25
- \$24.00
- \$48.00



82

Make the graph of the function below,
then determine the maximum value of the function.

$$f(x) = -x^2 + 2x + 2$$



The maximum value is: _____



Answer Key & Teacher's Guide

Successful Test Taking® MATHEMATICS 10

2006 Edition

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Successful Test Taking®

This *Successful Test Taking*® Mathematics 10 book is specifically designed to assist teachers and students as they incorporate the information and skills contained in the Colorado Model Content Standards into their learning environment. The book is an **essential teaching resource** for educators interested in preparing their students for the Colorado Student Assessment Program (CSAP). Students will see the book as a helpful **learning tool** to master important mathematics skills.

Using Successful Test Taking®

1. After each student receives a Successful Test Taking® Mathematics 10 book, let them know they can write and mark their answers in the book.
2. On pages 4 and 5, review with your students the strategies for answering the different types of mathematics questions on the CSAP.
3. Because this book is a learning/practice tool, you should tell your students that the format of the book is somewhat different from the CSAP. For example, this book contains more items (92) than the CSAP (which has about 60 items). Also, there are more constructed-response items (30 items or 32%) to provide students with much more thinking/analyzing/writing practice to build their confidence while preparing for the CSAP.
4. Because this book has more items than the CSAP, you may wish to spend more time and/or days using this book than is actually spent taking the assessment.
5. Have students review the General Information for the Student on page 7.
6. Next, have students begin the math items for Session 1 beginning on page 8. Students will continue working through page 21 (item 31).
7. Session 2 testing (page 22) and Session 3 testing (page 40) will be carried out in a similar fashion as Day One, with students working on items 32-92.
8. **Remind students to continue working on the math items until they reach a stop sign  in their book, at which point students stop.**
9. You should let students know that the difficulty level of these items varies from easy to very challenging. Further, students should not assume that diagrams and pictures have been drawn to scale; some are not drawn to scale.
10. There are a total of 146 possible points in the Mathematics 10 book.
11. Standard 1: Number Sense
Standard 2: Algebra
Standard 3: Data Collection
Standard 4: Geometry
Standard 5: Measurement
Standard 6: Linking Concepts

CO