

# Successful Test Taking<sup>®</sup> Mathematics 10

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Dear Educator:

This sample represents only a portion of the **LEADERSHIP RESOURCES<sup>®</sup>** Successful Test Taking<sup>®</sup> Mathematics 10 High School preparation book (2008 version).

The actual book is 64 pages with 94 math items: 58 are multiple-choice, 9 are enhanced multiple-choice, 19 are short-answer, and 8 are extended-response.

The actual 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 GLE each item assesses.

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303 Court Street

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800.257.7157

Fax: 810.985.7157

e-mail: [leadership@advnet.net](mailto:leadership@advnet.net)

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# Successful Test Taking®

# Mathematics 10

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OWNER/PUBLISHER:

**LEADERSHIP RESOURCES®**

303 Court Street

Port Huron, MI 48060

800.257.7157

FAX 810.985.7157

E mail: [leadership@advnet.net](mailto:leadership@advnet.net)

# Successful Test Taking<sup>®</sup>

## 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 assessment you will take. 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 and Enhanced Multiple-Choice Items

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?"
3. For multiple-choice questions, carefully make any calculations.
4. There will be 4 answer choices. Look 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 bubble to the left of the answer you chose. A correct answer is worth one point.
7. Enhanced multiple-choice questions ask you to mark the BEST answer in the same way. Then you must explain why you chose the answer you did. Enhanced multiple-choice questions are worth 2 points.

# Successful Test Taking Strategies for Answering Enhanced Multiple-Choice, Short-Answer, and Extended-Response Items

Enhanced multiple-choice questions, short-answer questions, and extended-response questions require you to think about an answer to a problem, figure out a way to solve the problem, and then either write an answer to the problem, or show how you got your answer, or perform some task such as making a graph.

Enhanced multiple-choice items require you to choose the correct answer from 4 answer choices and then explain why you chose the answer you did. Short-answer questions require you to explain why you chose the answer you did or show how you arrived at your answer. You will use about 5 minutes to answer each enhanced multiple-choice and short-answer question. A complete answer is worth 2 points.

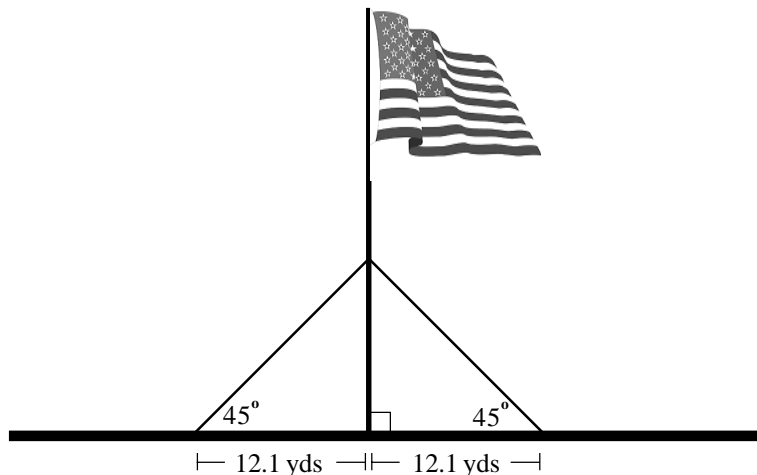
Extended-response questions are more challenging and require a longer answer, such as writing a detailed explanation or solving a multi-step problem. You might use about 10 minutes to answer extended-response questions. A complete answer is worth 4 points.

1. **THINK:** Read the question and any directions carefully.  
Ask yourself, "What do I know?" "What is the question asking me to do?"
2. While you are reading the problem, look for and underline or highlight key words or ideas.
3. **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.
  - Be careful with your calculations.
4. **EXPLAIN:** Remember, someone will be reading your answers to enhanced multiple-choice, short-answer, and extended-response items.  
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.
5. Make sure your explanation is clear and complete so that the person who reads your answer understands your thinking.
6. 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.

## When you get to school on the test days:

- A. Find a comfortable place to work. This may mean not sitting next to your friends. Remember, your goal is to do your best on the test. Sit where you can concentrate and do well.
- B. Follow along when the teacher gives the test directions. Ask your teacher to explain the directions if you do not understand them.
- C. Some tests are confusing. You may know the answer, but you must correctly fill in the bubble or write your answer on the blank lines to get credit for your answer.
- D. Unless your teacher tells you otherwise, **mark in the test book**. Most test books will not be used again, so mark away! Do any work you need to right on the test book pages.
- E. Don't waste all of your time on one item. It is OK to skip a question and return to it later. Make finding the item you skipped easy for yourself by putting a large \* next to it or by circling the number of the question in the test book.
- F. If you come across an item that just seems impossible, skip it and move on. But don't give up on the whole test altogether. Some test writers put in very hard items at first. Don't let them defeat you when they do this. Keep going!
- G. For multiple-choice and enhanced multiple-choice items, mark the **best** answer. If you are not sure of an answer, go ahead and guess wisely. But don't just mark any answer. You probably already know that at least one of the answers is incorrect. Mark out all incorrect answer choices even if you can't completely figure out the correct answer. This will make guessing wisely easier.
- H. For enhanced multiple-choice, short-answer, and extended-response items, clearly explain your thinking and show all your work.
- I. Copying is cheating, so do your own work. Besides, when you copy, you run the risk of miscopying; and the person you copy from may be wrong.
- J. Review your multiple-choice and enhanced multiple-choice answers when you are finished to be sure you chose the **best** answer. Reread your answers to all enhanced multiple-choice, short-answer, and extended-response items to make sure they are clear and complete.
- K. Most tests are too long, and you will get tired. Keep at it, even if you need to stretch your back and arms. It may help to look at the ceiling or out a window from time to time.

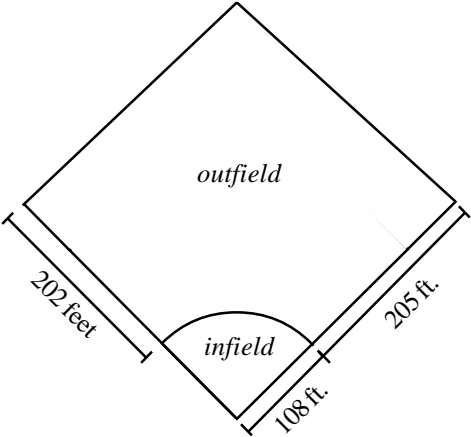
3 The flagpole at City Hall is supported by two wires, as shown below.



What is the length, to the nearest hundredth of a yard, of each of the flagpole's support wires? Choose the **best** answer and then explain your choice.

- A. 6.50
- B. 12.10
- C. 17.11
- D. 34.22


6 The grassy outfield of a high school's rectangular baseball field, shown in the diagram below, is going to be reseeded with new grass. The infield, which is in the shape of a quarter circle, will not be covered with the new grass.



**Diagram of High School Baseball Field**

How many square feet of the baseball field will be reseeded with new grass? Show your work using words, numbers, and/or diagrams.

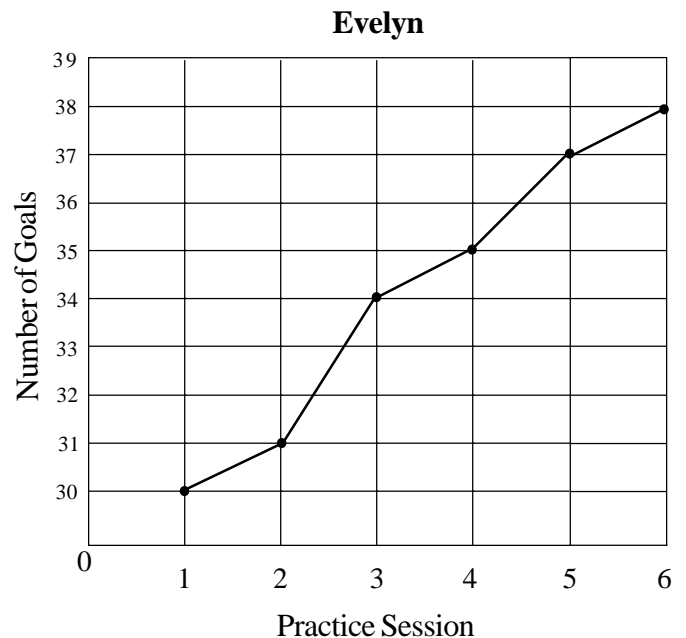
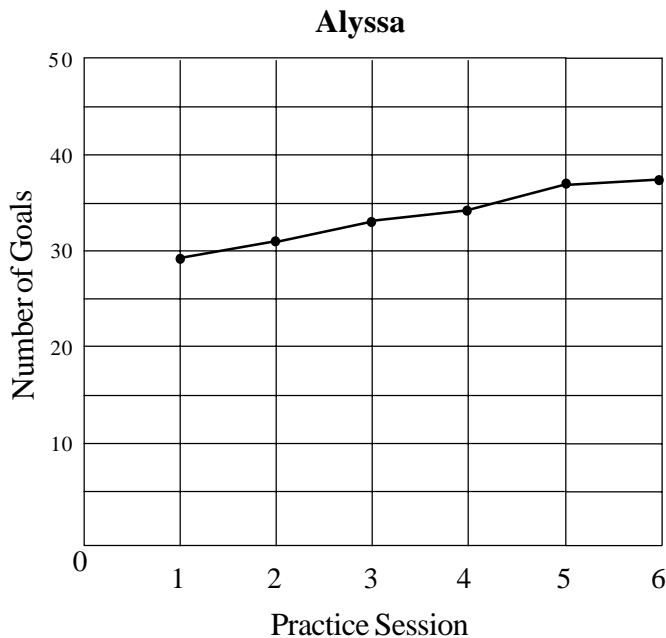
<b>How many square feet of the baseball field will be reseeded with new grass? _____</b>

7 Which of the following is not equivalent to 4?

- A.  $(4^{\frac{1}{2}})^2$
- B.  $4^0$
- C.  $4^3 \div 4^2$
- D.  $\sqrt{16}$

9 The graphs below show the number of hockey goals made by Alyssa and Evelyn during six field hockey practice sessions. Each girl took 50 shots on goal at each practice session.

**Goals Made During Field Hockey Practice**



According to the information in the graphs, which statement is true?

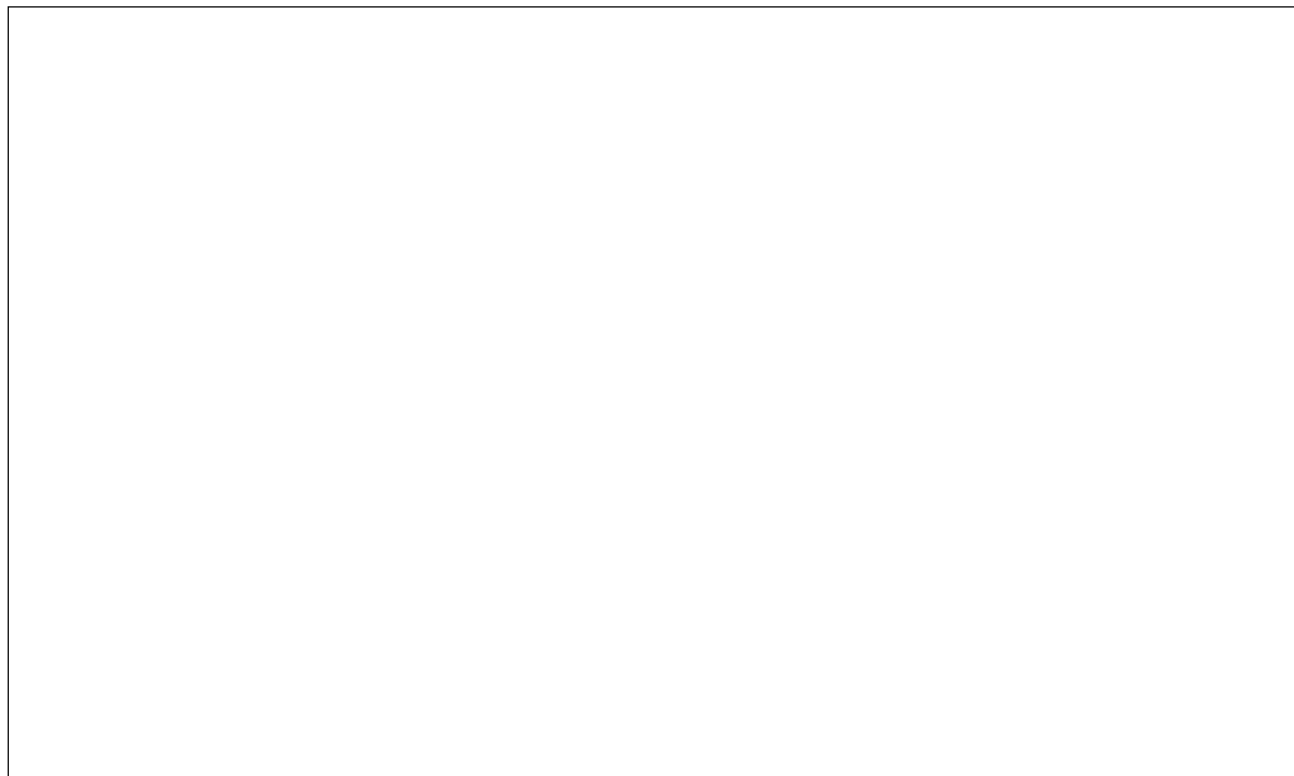
- A. Alyssa and Evelyn scored about the same number of goals.
- B. Evelyn scored twice as many goals as Alyssa.
- C. Alyssa scored more goals than Evelyn.
- D. Evelyn scored three times as many goals as Alyssa.

- 12 The table below shows the amount of time 10 students studied for their final math exam and the test score each student received.

**FINAL MATH EXAM  
STUDY TIME AND TEST RESULTS OF 10 STUDENTS**

<b>Student</b>	<b>Study Time (in minutes)</b>	<b>Test Score (%)</b>
1	55	62
2	105	79
3	145	89
4	30	55
5	170	96
6	96	84
7	110	80
8	150	91
9	88	82
10	75	75

Create a graph showing the relationship between the amount of time the students studied and the test score each student received. Be sure to properly label all parts of your graph.



- 24** The planet Neptune is approximately 2 billion, 800 million miles away from the sun. If light travels at a rate of about  $1.86 \times 10^5$  miles/second, about how long does it take the light from the sun to reach Neptune?

- A.**  $5.2083 \times 10^{14}$  seconds  
 **B.**  $1.5053 \times 10^5$  seconds  
 **C.**  $1.5053 \times 10^4$  seconds  
 **D.**  $1.5053 \times 10^3$  seconds

- 30** Betty owns a lawn cutting service. She charges \$100 per month to cut a customer's lawn 3 times each month. She charges \$28 for each additional time she cuts a customer's lawn in any one month. Betty also charges for any materials (garbage bags, gas) she uses, plus 10% above the cost of the materials. Which expression could be used to find the cost per month to a customer whose lawn is cut  $x$  times per month, where  $m$  represents Betty's cost of materials?

- A.**  $100 + 28x + 1.1m$   
 **B.**  $(100 + 28)x + 3 + 1.1m$   
 **C.**  $100 + 28(x - 3) + 0.1m$   
 **D.**  $100 + 28(x - 3) + 1.1m$

- 32** Which of the following is equivalent to the reciprocal of  $\sqrt{\frac{1}{9}}$  ?

- A.**  $\frac{1}{9}$   
 **B.**  $\frac{1}{3}$   
 **C.** 3  
 **D.** 9

**45** Rose saved \$200 to invest. She deposits the money into a savings account that yields 4% interest per year. About how much money will be in Rose's account in six years if interest is compounded annually and she makes no other deposits or withdrawals?

- A.** \$230
- B.** \$250
- C.** \$270
- D.** \$290

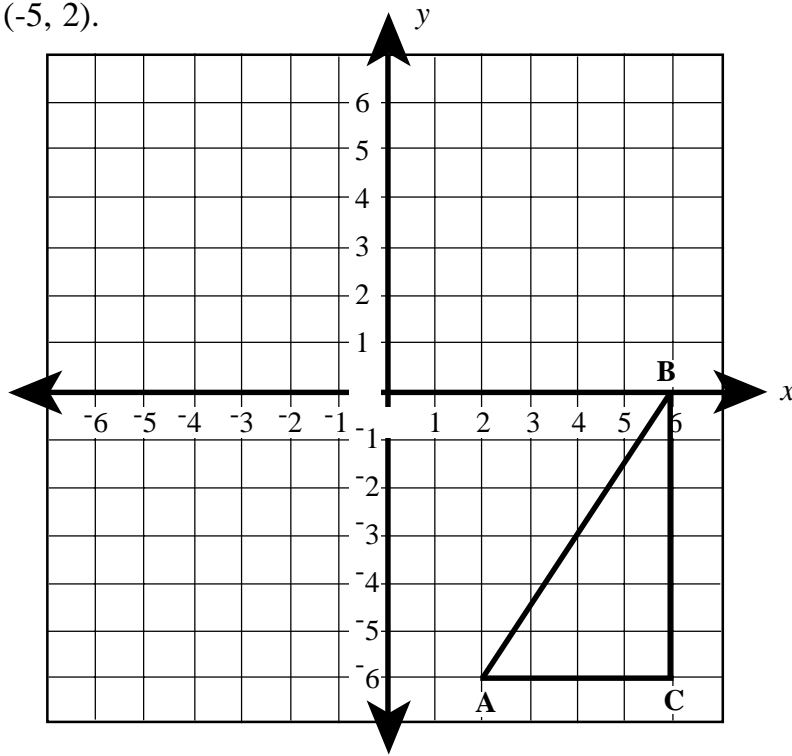
**46** The expenses for a school band concert total \$660.00. The band members want to determine how many tickets must be sold to cover this expense. Using the table, which equation will help the students determine the number of tickets that must be sold?

number of tickets sold ( $x$ )	total cost of tickets
5	\$27.50
10	\$55.00
12	\$66.00

- A.**  $5.5x = 660$
- B.**  $x + 5.5 = 660$
- C.**  $660x = 5.5$
- D.**  $660 - x = 5.5$

Use the information below to answer questions 16 and 17.

Look at triangle ABC. Pia wants to make a new triangle DEF. The dimensions of triangle DEF will be similar to the dimensions of triangle ABC. They will be one-half the dimensions of triangle ABC. Point D will be located at  $(-3, 2)$  and point F will be located at  $(-5, 2)$ .

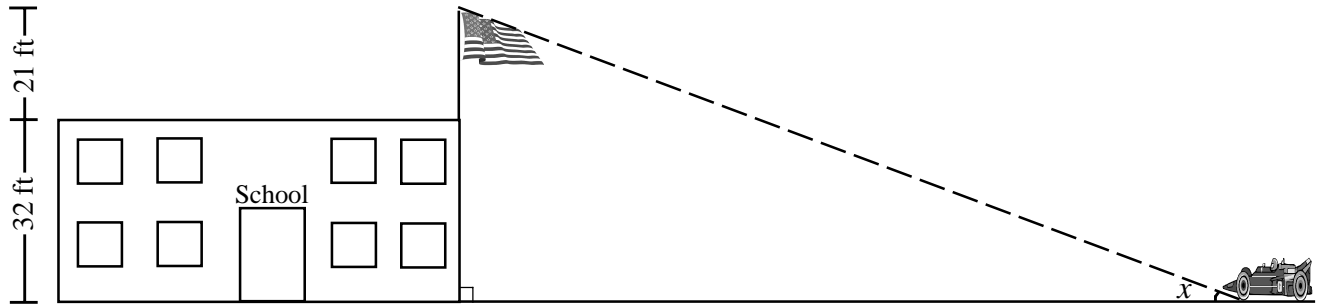


**16** Which of the following coordinates for point E will make triangle DEF similar to triangle ABC?

- A.  $(-5, 5)$
- B.  $(-6, 5)$
- C.  $(5, -5)$
- D.  $(-5, 6)$

**17** Where else could Pia plot a point E so that triangle DEF is similar to, and one-half the size of, triangle ABC? Explain your answer.


- 46 A flagpole, which is 21 feet high, is positioned on top of a two-story school that has a flat roof. The roof of the school is 32 feet from the ground. The distance from the top of the flagpole to the front tire of the principal's car (the bottom portion of the front tire that is touching the ground) is 256 feet.



What is the angle of elevation ( $x$ ) from the front tire of the principal's car to the top of the flagpole? Show your work using words, numbers, and/or diagrams.

<b>What is the angle of elevation (<math>x</math>) from the front tire of the principal's car to the top of the flagpole? _____</b>

# Answer Key & Teacher's Guide

## Successful Test Taking<sup>®</sup> MATHEMATICS 10

2008 Edition

LEADERSHIP  RESOURCES<sup>®</sup>


303 Court Street, Port Huron, MI 48060

800.257.7157 Fax 810.985.7157

### Successful Test Taking<sup>®</sup>

This *Successful Test Taking<sup>®</sup> Mathematics 10* book is specifically designed to assist teachers and students as they incorporate the information and skills contained in the learning targets into their learning environment. Each item has been aligned with the learning targets. As such, the book is an **essential teaching resource** for educators interested in preparing their students for the state assessment. Students will see the book as a helpful **learning tool** to master important mathematics skills.

### Using Successful Test Taking<sup>®</sup>

1. After each student receives a *Successful Test Taking<sup>®</sup> 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 four different types of mathematics items on the Math 10 WASL.
  3. Use page 6 to discuss preparation and aids to test taking.
  4. **This book contains two practice tests. Both are equally challenging so teachers can administer either test first.**
  5. Each test is designed to be taken over a period of two days. However, you may wish to spend more time and/or days using each test.
- Because this book is a learning/practice tool, you should tell your students that the format of the *Successful Test Taking<sup>®</sup> Mathematics 10* books is somewhat different from the assessment. For example, there are more short-answer items. This book provides more short-answer items to give students more thinking/analyzing/writing practice to build their confidence while preparing for the assessment.
6. Have students turn to page 7 to review the directions.
  7. Next, have students begin Session 1 of either practice test. Students will continue working until they reach the end of Session 1. The testing for Session 2 will be carried out in the same fashion as was Session 1.
  8. The other practice test is to be administered in the same manner as was the first.
  9. **Remind students to continue working on the math items until they reach a stop sign  in their book, at which point students stop.**
  10. 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.
  11. There are a total of 46 items and 73 possible points for Practice Test #1 and 48 items and 73 possible points for Practice Test #2.