• Break students into small groups of three to four students. Assign students one of the different types of math problems they learned about from the program, including data analysis, mechanics or word problems. Have each group write five problems of that type. Compile the problems into a class math test or have groups exchange papers and solve the problems. Discuss with students how they used tips from the program as they worked.

Suggested Internet Resources
Periodically, Internet Resources are updated on our web site at www.libraryvideo.com
• www.inform.umd.edu/LASRV/links.html
  This site from the University of Maryland has an extensive list of links regarding math test preparation.
• www.acad.sunyccc.edu/instruct/sbrown/math/test.htm#BrainDump
  This site from Tompkins Cortland Community College has a variety of math test-taking tips.

Suggested Print Resources

Taking Math Tests
Grades 7–12
Test-taking has always been a part of every student’s life. From the time young elementary students bound through the doors of their first grade classrooms, till the time they gleefully toss their high school graduation caps in the air, it is likely that students will have taken over one thousand tests! For many students, test-taking can be: A) frightening, B) confusing, C) nerve-wracking or D) all of the above. While there has frequently been controversy over the real value of tests, there is very little debate regarding best test-taking practices. In Test-Taking Strategies for Students, viewers will be introduced to the most effective ways in which to prepare for and take all different types of tests. Viewers will also learn some straightforward techniques for overcoming test anxiety. Now, more than ever, with the emphasis on teacher accountability and measurable student performance, these programs will arm students with the strategies they need in order to fully demonstrate what they have learned.
Program Overview
In *Taking Math Tests*, students will learn some of the best techniques for taking a variety of different types of math tests. Whether it is a teacher-made or standardized test, students will learn the most efficient and effective ways to deal with word, computational and logic problems, and data analysis questions, which often require the creation of graphs and tables. Students will also learn the importance of understanding math vocabulary, and the necessity of practicing basic computational skills in order to keep those skills sharp. *Taking Math Tests* explores the usefulness of mnemonic devices to aid memory, and how to develop strategies for solving specific math problems. Students will also become familiar with some general math test-taking strategies, like the importance of time management and how to deal with math multiple-choice questions.

Vocabulary

**acronym** — A group of letters that form an easy-to-remember word. Acronyms can help you remember information. FOIL is an example of an acronym, which can help you remember the steps involved in factoring algebra problems: F stands for first terms; O stands for outer terms; I stands for inner terms and L stands for last terms.

**acrostats** — Invented sentences that serve as mnemonics (memory jogs). For example, *Please excuse my dear Aunt Sally* can help you remember the order of operations: Parentheses, Exponents, Multiplication, Division, Addition, Subtraction.

**computation** — Calculations; arithmetic.

**data analysis problems** — Math problems that require you to either interpret information that is presented visually or to create your own visual with the data given.

**estimation** — An educated, logical approximation.

**mechanics problems** — Math problems that have a set of steps that must be followed in a specific order to arrive at the correct answer.

**memory dump** — To quickly jot down any information that you have memorized that you will need to solve the problem. The information might include formulas, for instance.

**mental math** — Calculating in your head, without using paper and pencil, calculators, or any other outside help.

**mnemonic devices** — Memory tricks that help you retrieve information that you have already memorized. Acronyms, acrostics, and rhymes are all examples of mnemonics.

**problem solving** — Calculating the correct answer to a math problem or equation.

**sum** — The total of two or more numbers when they are added together.

**word problems** — Mathematical problems that involve scenarios.

Focus Questions
1. What are you doing when you *do* math?
2. In what ways is math a sequential subject?
3. Why is it important to understand each topic you learn in math?
4. How do you become good at solving math problems?
5. What are mechanics problems? What skills do they test?
6. How can you use flashcards to help you study for math tests?
7. What is a mnemonic? Provide some examples. How can mnemonics help you improve your scores on math tests?
8. What skills do mathematical word problems test?
9. Define *estimation* and explain how it can help you earn a high score on a math test.
10. How can knowing the key words *because, it follows that, and finally* help you earn a high score on a math test?

Discussion Topics
• The program asserts that math is fundamentally different from other school subjects for several reasons. Invite students to debate this issue. Is math indeed different from other subjects? If so, in what ways?

• Invite students to discuss what makes word problems especially challenging to solve. Students should include information about the ways they approach these math problems.

Follow-Up Activities
• Have students make a glossary of math vocabulary, including such words as *algebra, geometry, probability, mass, mean, hypotenuse, Pythagorean Theorem, variables and volume*. Students can take words from the program and their math books, and tap their prior knowledge. Then, have students define all the words. See how many different mathematical words students can collect, define and learn.

• Divide the class into two teams and hold a "Math Bee" to test students' comprehension of math vocabulary. Each side should take turns asking and defining vocabulary words from the list in this guide and the words they learned from the previous activity.

• Have individual students "teach" some of the lessons from this program to the class. Students can mimic the actors, recreate scenes, or write new scenes of their own, based on what they learned.

• Have students create mnemonics such as acronyms and acrostics to help them remember past and present math information. Students can compile their mnemonics into a class book that everyone can reference when studying for math tests. They might also post this information on the school web site for everyone to share.

(Continued)