

Strategies for Winning at Math



Student Success Workshop

Just the Facts

- Poor performance in math is **NOT** due to a lack of intelligence.
- The key to success in math is having the right approach to studying and learning.
- Math anxiety is a learned habit pattern that **CAN** be changed.

Examine Your Study Habits

- How often do you study and for how long?
- How do you begin and end a study session?
- Which study techniques are the most effective?

Math is a Skill-Based Subject

Math is a skills that must be practiced repeatedly to be mastered.

If you are struggling in your math class, make the effort to practice Math every day.



The Cure for Math Anxiety

- Show up to class every day and be a part of the class.
- Organize your class materials.
- Practice quizzing yourself as a study technique.
- Replace the negative self-talk with positive self-talk.
- Use your resources.

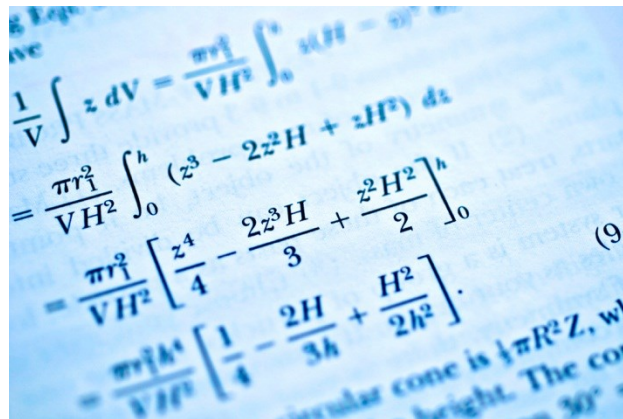
Organizing your Notes

- Create a binder and divide into 5 sections:
 1. Handouts - The first handout should be the class schedule. Make sure to date the handout and write the topic at the top.
 2. Class notes/class work - Include all of your notes from class in chronological order.
 3. Homework – Keep your graded assignments
 4. Exams and quizzes - Correct each problem you missed on the exam by making corrections in a colored pen.
 5. Glossary - Create a list of definitions that come up in class.

Memory Techniques

Note cards

- Write a vocabulary word, the title of a formula, or a solution to a problem.
- Don't put more than one topic or question on the notecard.


$$\frac{1}{V} \int z dV = \frac{\pi r^2}{VH^2} \int_0^h (z^3 - 2z^2H + zH^2) dz$$
$$= \frac{\pi r^2}{VH^2} \int_0^h (z^3 - 2z^2H + zH^2) dz$$
$$= \frac{\pi r^2}{VH^2} \left[\frac{z^4}{4} - \frac{2z^3H}{3} + \frac{z^2H^2}{2} \right]_0^h$$
$$= \frac{\pi r^2}{VH^2} \left[\frac{1}{4} - \frac{2H}{3h} + \frac{H^2}{2h^2} \right]$$

... circular cone is $\frac{1}{3}\pi R^2 Z$, wh
... height. The con
... $30^\circ =$

Memory Techniques

Learning Maps are a summary of information put in diagram form, somewhat like a flowchart/mind map.

- Put the section title (your topic) in the center of the page and circle it.
- Connect the objectives in that section to the circle and branch out details.

Use this process for each section of the chapter.

Memory Techniques

Create “Cheat Sheets”

- Write as much information about the chapter as possible on one sheet of paper. This exercise is intended to help you review information prior to the test.
- If there is information you are unsure of, direct more time to reviewing that topic.

Study Strategies

- Work with a tutor if you are having trouble learning the material.
- Work with a study group for test preparation.
- Always take opportunities to practice the material by completing homework assignments.
- Rework or review your notes often.
- Work practice problems as a way to review for an upcoming test.

Tackling Word Problems

- Go over the section of your book that focuses on how to solve word problems. i.e. look for “Introduction to Problem Solving”.
- Try to identify what types of word problems are in a section and focus on how those types are solved.
- Make notecards with problems on them. Quiz yourself until you are comfortable solving the problems.
- Once you have seen how to solve a problem, try it on your own.

Test Taking - The Practice Test

- Use your notes and textbook to create a practice test
- Write the page and problem number from your textbook so you can grade yourself
- Give yourself the appropriate amount of time to take the test
- Once finished, grade your test using the answers in the back of the book.
- Review and practice the problems you missed
- Take the practice test to your instructor for feedback

Test Taking - Preparation

- Start studying for the exam the day you start the new chapter
- One week prior to the exam, increase your study time
- Use your class notes and the textbook to make a list of potential exam questions
- Two or three days prior to the test, take the practice test
- Avoid cramming

Before the Test

- Try to show up at least 5 minutes before the test will start.
- Bring all materials to class with you.
- Listen carefully to your instructor's directions and comments.
- Do a “mind dump” – Write down key facts or formulas in the margin before you start your test.
- Preview the test before you answer anything.
- Quickly calculate how much time you should allow for each section according to the point value.

During the Test

- Answer easy questions first.
- If you don't know the answer, make a mark next to that question and try to complete it later.
- Guess at answers you don't know unless there is a penalty for guessing.
- Change answers only if you are sure they are wrong.
- Be mindful of your time.
- Review the test prior to completing.

After the Test

- Emphasize what you did well.
- When you receive your graded test, go over the questions that you missed and correct in a different color ink.
- Make sure you discuss with your instructor any questions you may not have understood.
- Reward yourself for a job well done.

Final Exam Preparation

- Rework your old exams
- Rework your old quizzes
- Rework in-class examples from throughout the semester
- Review your old homework assignments
- Review your notes
- Make sure you plan out your study time and schedule several days for preparation



Information retrieved from:
Math Study Skills by Alan Bass