

# Study Tips

## Keys to Remembering What You Study

There are three important keys to improving your memory in math. The most successful students use all three.

### Immediate Review

Unfortunately, the human memory is *not* very effective. Here is the bad news and good news.

#### Students who do *not* review

- After 20 minutes, they remember only 60% of what they learned.
- After 1 day, they remember only 30%.

#### Students who review immediately and review again later

- They remember 80% of what they learned for long periods of time.

To get information from your *short-term* memory into your *long-term* memory, it needs to be repeated right away after you learn it, and then repeated again later.

Try to schedule some free time right after your math class and immediately do a few homework problems. (If not right after class, then as soon as possible, and definitely before you leave for the day.) Also read your lecture notes and fill in things you didn't have time to write down during class. If you have questions, take time *before you leave* to ask for help from your instructor, or a classmate, or a tutor in your learning center.

Later in the day, review your notes again and finish the homework assignment. This second review reinforces the information in your long-term memory. That way, before a test, you won't have to learn it all over again.

### Overlearning

When you are learning many new things, it is easy for the newest concepts to interfere with remembering the ones you learned a week or two earlier. To prevent this problem, build review into *every* study session. After you complete the current homework assignment, rework one or two odd-numbered problems from each of the previous sections in the chapter. Check your answers in the *Answers* section in the back of the book.

Or, if you are farther along in the book, rework several problems from the *Chapter Test* at the end of each chapter. Mark the problems you rework, so that you do different problems during each review. Also try the *Cumulative Review Exercises* at the end of each chapter; they cover all the topics in the book up to that point.

### Distributive Learning

Studying math for 3 hours on one night is *not* as effective as studying for 1 hour on each of three nights. Either way the total is 3 hours of studying. Why is the second method better for your memory?

The answer is *time*. Your brain needs time between learning sessions to continue to process the information subconsciously. This is why cramming the night before a math test doesn't work. The best learning, and remembering, happens when you study *every day*, rather than once or twice a week.

### Make a Plan

How will *you* improve your math memory? Write down a plan that includes

1. How you will do immediate review after each class.
2. How you will build review into each study session.
3. How you will distribute your studying during each week.