Math Study Skills
Pierce College ASAP
3rd Edition
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Lesson 1

Syllabus and Keeping a Notebook

The syllabus contains important information about the course material. For any class you take it is very important to understand the details of the syllabus given by your instructor, so you should read it thoroughly and carefully. Many times students miss points in the class because they have not carefully reviewed the syllabus. Most of the questions you have about the details of the class can probably be answered by just looking over the syllabus. After reading the syllabus, if you find that you still have questions about the course do not hesitate to ask your instructor for more clarification.

Things to remember when reading the syllabus:
1. Read through the syllabus.
2. Underline/star the parts that the instructor has emphasized.
3. Highlight the important dates to remember.
4. Put question marks next to things you may be unclear about.

Do not lose the syllabus. Keep it for your records and refer back to it throughout the course to stay on top of things. One way to avoid losing the syllabus is to keep a notebook/binder for the class. If your notebook has a transparent front jacket, it is a good idea to place the syllabus there for quick reference. If not, you can place it as the first page of your notebook/binder. You should use the notebook/binder to take notes in the class in an organized manner.

* Start each page by writing the important information like the date and section(s) to be covered that day.
* Save 2 pages at the front or back of your notebook/binder to list all formulas for the semester. Every time you learn a new formula, write it on this formula page with the section number next to it. Example: distance = rate x time (d = rt) section 1.2
* Save 2 pages at the front or back of your notebook/binder or your homework notebook to list all the homework questions you need help with.
* These class notes should be reviewed periodically and also when you are preparing for quizzes or exams.

Lesson 1 Activity A: Syllabus Search
Directions: Use your class syllabus to answer the following questions.

My instructor’s name is ________________________________

I can contact my instructor by:
Phone: ___________________ Email: ___________________

My instructor’s office is located in: ___________
My instructor’s office hours are: ______________________

(Continue on next page)
Matching my schedule with my instructor’s office hours, the times that I will be able to meet with my instructor are:
____________________________________

The website address for this class is_____________________________ (leave blank, if none provided)

The required textbook(s) for this class are titled
___________________________________________________
___________________________________________________
and I can buy them on campus at the bookstore.

For this class I need a (circle one) scientific/graphing calculator such as a ____________.

Other materials I need are: ______________________________________________________________________

The attendance policy is: ______________________________________________________________________

The cheating policy is: ______________________________________________________________________

**Course Grading Policy**

I plan to earn a(n) A/B/C__________ in this course.

The grading scale will be: A=_______ B=_______ C=_______ D=_______ F=_______

My course grade will be based on my scores on __________________, ________________, and __________________.

When is Homework due? ______________ __________

How do you turn it in? ______________________________________________________________________

Each homework assignment is worth _____ points and all homework is worth _____ points total for the course.

This class has _____ tests that are scheduled on __________________

Each test is worth _____ points.

The Final Exam for Math 115 is scheduled on __________ and the Final Exam for Math 125 is scheduled on __________________ and each is worth _____ points.

Other requirements are: ______________________________________________________________________
__________________________________________________________________________________________
__________________________________________________________________________________________

(Continue on next page)
Resources for this Course
If I need help in this course, I can use the following resources:
1 ____________________________________________
2 ____________________________________________
3 ____________________________________________

If I need a tutor for this course, I can call __________________ or go to _____________________

If I need accommodation due to a disability I need to _________________________

If I need to contact a classmate from this class I would call or email
1 ___________________ phone: ___________ email: ________________
2 ___________________ phone: ___________ email: ________________
3 ___________________ phone: ___________ email: ________________

A good time for me to meet with a study group is ______________________

Questions for my instructor about the grading policies or……:
________________________________________________________________________
________________________________________________________________________

Good organization is a study skill that is essential for success in mathematics. Some people seem to be naturally organized, while other people are not. But it is possible to learn to be organized. The next two activities are a good way to start to develop this important skill.

Lesson 1 Activity B: Formula Page
Directions: turn in the formula page that you have started in this class (see page 3 of this booklet)

Lesson 1 Activity C: Gathering Supplies
Directions: Bring to class (and be prepared to display) ALL the supplies listed in your syllabus and/or Study Skills assignment sheet. Check them off as you get them.

1. Textbook _____ 2. Study Skills Booklet _____
5. Two 3-ring binders (one for homework, one for Study Skills assignments) _____ (no jagged edges) _____
6. Graph paper and lined paper _____
7. 3x5 note cards _____ 8. Stapler _____
9. Pencils/erasers/ 6 inch ruler __/__/ __ 10. Other _______________________

Tip: Write your name on ALL your books, notebooks, and your calculator!
Lesson 2

Math Anxiety and What Makes Math Different

Math Anxiety

Math anxiety is an emotional reaction to mathematics based on a past unpleasant experience which harms future learning. A good experience in learning mathematics can overcome these past feelings so that success and future achievement in math can be attained.

How to overcome math anxiety:
1. Overcome negative self-talk. Never say “I can’t...” or “I’m no good at...”
2. Ask questions.
3. Consider math a foreign language -- it must be practiced.
4. Don't rely on memorization to study mathematics. Aim for understanding the concepts.
5. READ your math text, working out the examples as you go along.
6. Study math according to YOUR LEARNING STYLE (Auditory, Visual, or Kinesthetic)
7. Get help the same day you don't understand a topic.
8. Be relaxed and comfortable while studying math.
10. Develop responsibility for your own successes and failures.

Lesson 2 Activity A: Do you have Math Anxiety?

Directions: Rate your answers from 1 to 5 by circling the desired number.

(1) = Strongly Disagree, (5) = Strongly Agree.

1. I cringe when I have to go to math class. 1 2 3 4 5
2. I am uneasy about going to the board in a math class. 1 2 3 4 5
3. I am afraid to ask questions in math class. 1 2 3 4 5
4. I am always worried about being called on in math class. 1 2 3 4 5
5. I understand math now, but I worry that it's going to get really difficult soon. 1 2 3 4 5
6. I tend to zone out in math class. 1 2 3 4 5
7. I fear math tests more than any other kind. 1 2 3 4 5
8. I don't know how to study for math tests. 1 2 3 4 5
9. It's clear to me in math class, but when I go home it's like I was never there. 1 2 3 4 5
10. I'm afraid I won't be able to keep up with the rest of the class. 1 2 3 4 5

Add your points and write your score here.

(Continue on next page)
CIRCLE YOUR SCORE:

40-50 Sure thing: you have math anxiety.
30-39 You're still fearful about math.
20-29 On the fence!
10-19 Wow! Loose as a goose!

If you scored above 20 points make sure you review again “How to overcome math anxiety” from above. 

Whatever your score is, list 3 or more changes you will make during this math course to improve your math success.

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

What Makes Math Different
1. Math requires a different study process. You must not only learn the material, but understand it, and then apply it to solve problems.

2. Math is a linear learning process. What is used one day is used the next, and so forth. In a history class you can learn chapter 2, but not 3 and possibly do fine on chapter 4. In a math class, you must understand the material in chapter 1 before you go on to chapter 2. In other words, you need to retain everything you learn and build on it.

3. Math is much like a foreign language. It must be practiced EVERY DAY, and often the vocabulary is unfamiliar.

4. Math in college is different from math in high school. Your grade is based almost exclusively on your exam grades. What took a year to learn in high school is now covered in only fifteen weeks. In the ASAP course, what took 2 years to learn in high school is now covered in 15 weeks. This means you must expect to study math for 15 to 20 hours a week outside of class.

(Continue on next page)
Lesson 2 Activity B: Study Strategies for Math
Directions: Given the four differences listed above, make a list of specific study strategies you will use in studying for this math class.

1. ___________________________________________________ ___________________________________________________
   ___________________________________________________ ___________________________________________________

2. ___________________________________________________ ___________________________________________________
   ___________________________________________________ ___________________________________________________

3. ___________________________________________________ ___________________________________________________
   ___________________________________________________ ___________________________________________________

4. ___________________________________________________ ___________________________________________________
   ___________________________________________________ ___________________________________________________

Lesson 2 Activity C: A Gift to Yourself

Choosing to get an education is a precious gift you give to yourself and to your future. Do everything you can to protect that gift and cherish it as much as possible. View each class meeting as irreplaceable and the knowledge you gain there as a critical piece of your education. Take full advantage of your gift of time! Give your full focus every class meeting. Each class and each assignment make a contribution to the end result—your education.

Directions: Consider the statements in the following table and indicate whether you agree or disagree with each.

<table>
<thead>
<tr>
<th></th>
<th>Agree</th>
<th>Disagree</th>
<th>Neutral</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) I want to succeed in college.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) I want this course to give me a solid foundation for my next math class.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) Every topic in this course is important to my success in the next math course.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d) I want to get as much from each class meeting as possible.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e) If I earn an A in this course I will be better prepared for my next math course than if I earn a C.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f) I am less efficient when I multitask than when I focus on a single job.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>g) I cannot give 100% of my attention to two things at the same time.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>h) I put away my cell phone, books, and homework from other classes when I am in my math class.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Lesson 3

Listening and Classroom Skills

Success in math starts in the classroom. You need to make sure that you are prepared to learn and have all the materials that you need. You should pay attention to where you sit so that you can best see the board and hear the instructor without distractions. You also need to come to class prepared. This means bringing your notebook, textbook and any other needed materials (pencils, colored pens/pencils, ruler, calculator, etc.) EVERY DAY as well as being mentally prepared. Below is a check list to help you.

**Where to sit:** “The Golden Triangle”: Choosing where to sit is the first step you take to ensure your success. In the front of the classroom there are fewer distractions and it is easier to see the board. The point in the back of the triangle is good for auditory learners because the instructor’s voice will project to this point. Do not hesitate to try out different positions until you find the spot that works for you. Also, communicate with your instructor- if there are distractions in the classroom that are interfering with your learning, such as other students’ talking, noise or glare from outside, etc., let him/her know so that s(he) can help you.

**Daily Tips for success:**

**Warm up for class:**
1. Review the previous days’ notes.
2. Read the section to be covered.
3. Review your homework.
4. Prepare questions.
5. Work out a few problems from the previous lesson.

**Active listening:**
1. Repeat important information to yourself.
2. Listen for main ideas.
3. Ask appropriate questions.
4. Mark your notes at points you need to go back to or ask about.

**Note taking:** The goal is to record as much information as possible with a minimal number of words. Your notes must be organized and neat. One type of note taking that is particularly powerful in a math class is the **column system**. You can use 2 or 3 columns. Make the columns before class.
   1. Start each lecture with a clean sheet of paper, label it with the date and course.
   2. Label one column for examples, one for explanations. A 3rd column can be used for key words and rules.
   3. Listen for cues from the instructor about problems that may be harder or problems that are already in the book.
   4. Show ALL steps when copying problems from the board.
Lesson 3 Activity: Note Taking

Directions: Use the 2 or 3 column system described in “Note Taking” above for the lecture on ___________. Meet with your study group to compare your notes with the other people in your group.

1. Turn in your notes, signed by the classmate(s) who reviewed them.

2. Whose notes did YOU review?
   __________________________________________________________
   __________________________________________________________

3. What were the main concepts listed in your group’s notes?
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________

4. Did you all have the same examples? _____________

5. Can you understand the other’s notes? _______________

6. Can they understand yours? _______________

7. Make a list of how you can improve your notes.
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________
Lesson 4

Study Support

When you were a child, did your family help you prepare for the first day of school? Maybe they took you shopping for new clothes, a new pair of shoes, and a notebook? As a college student, you still need the support of your family and friends to help you succeed. But the support you need from them may not be as obvious as when you were younger. Analyze your own situation to identify what you need to be a successful student. Then be pro-active in letting your family and friends know how they can help you!

Lesson 4 Activity A: Support from family and Friends

1) The table below lists several ways you may inform your family and friends of your needs as a student. How do these apply to you?

<table>
<thead>
<tr>
<th></th>
<th>I have said this</th>
<th>I didn’t but knew I should</th>
<th>I had no idea!</th>
<th>Does not apply to me</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) I need a quiet place to study.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) I need to have fewer chores at home so I have time to study.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) I need to work fewer hours so I have more time to study.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d) I can’t go to the movies/party/dance because I have to study.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e) I can’t miss class to go to the doctor/dentist.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f) I can’t miss class to babysit.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>g) I can’t miss class to go to a funeral.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2) I have also asked my family and friends to help me succeed in college by …

3) As a result of this exercise, I now realize it would be a good idea to ask my family and friends to help me succeed in college by making the following requests:

(Continue on next page)
Lesson 4 Activity B: Stay on Campus—Stay on Task!

Your overall time commitment to college includes study and homework time. Pierce College has places where students can study and do homework. Staying on campus to study can help you succeed by keeping your family and social life separate from school. Scheduling study time on campus also makes it easier for you to use campus support services, like tutoring, counseling, and your instructor’s office hours. And when you complete your homework at school, you leave campus with the satisfaction of knowing that you are free!

1) Do you stay on campus after your classes are done?

2) Two places on campus where I can do my math homework are:
   a)
   b)

3) The hours I can do my math on campus are:
   Monday: __________________________  Friday: __________________
   Tuesday: _________________________  Saturday: _________________
   Wednesday: ______________________  Sunday: _________________
   Thursday: _________________________

4. Staying on campus to do my math will help me because:

   ____________________________________________________________________
   ____________________________________________________________________
   ____________________________________________________________________
   ____________________________________________________________________
   ____________________________________________________________________
   ____________________________________________________________________
   ____________________________________________________________________
   ____________________________________________________________________
Lesson 5

Strategies for Success

Reading a Math Textbook

Have you ever thought about how you read a math textbook? It’s different from reading a novel or a magazine. Most people don’t read math textbooks for relaxation or entertainment! They read math textbooks to learn how to do math. The book speaks to you, like a teacher does in class, showing and explaining how to do math.

Your math textbook should be one of the most helpful tools you use to successfully complete your math course. You should always read sections BEFORE the lesson and then again after the lesson before you do the homework. Following is a summary of steps you can use to become a more active reader of your textbook.

1) Before each class: Survey the section to be covered.
   a. Read paragraph titles.
   b. Read all bold faced words and definitions.
   c. Look over examples.
   d. Note any information that is boxed.

2) After class read the section thoroughly!
   a. Try to work out the examples before you read the solutions in the book.
   b. Write any formulas or definitions on your formula page.
   c. Note any questions you want to ask about in class or during office hours.

3) Do the homework.

Lesson 5 Activity A:

Directions: The table below lists some behaviors that may help you read your math book effectively. Think about how you usually read your math book. Then check the appropriate column next to each behavior.

<table>
<thead>
<tr>
<th>When I read my math book, . . .</th>
<th>Yes</th>
<th>No, but I know I should</th>
<th>No, I never thought of it</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) I sit with an alert, but comfortable, posture.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) I am prepared to do some math—I have a pencil in my hand. If I cannot write in my textbook, I have some paper, too.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) I read every single word.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d) I look at all diagrams, graphs, and pictures carefully.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e) I underline important words and ideas.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f) I work each step of the examples on paper.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>g) I make sure I understand all the math steps. If I don’t understand how one step follows the step before, I put a question mark and get help as soon as possible.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Did you check “Yes” for all the behaviors? __________ If not, which one(s) will you try next?

(Continue on next page)
Lesson 5 Activity B: On Time and Ready to Go!

1) My math class meets on ______________ from ______________ to ____________.

2) To be in class on time regularly I need to:
   a. 
   b. 
   c. 

3) How do I need to adjust my schedule to get to class on time?

4) Every class day I need to bring the following tools:
   a. 
   b. 
   c. 

5) What do I need to do to be sure I have these tools every day in class?

6) In order to be ready for the next session of this class, I need to:
   a. 
   b. 
   c. 

7) If I need help with the course material, I will:
   a. 
   b. 
   c. 

8) In order to devote enough time to succeed in this class, I will make these adjustments to my life:
   a. 
   b. 
   c.
Lesson 6

Note Cards

Many students feel that they understand the homework, but then don’t perform as well on exams. One possible problem is retention. In a math class, you must understand the material, apply it, and retain it! Creating note cards is a technique to help you retain (remember) information. This technique can help you in several ways. First of all, the act of sifting through the information and choosing what is important is a great review. Then, the actual creation of the cards helps reinforce the material and of course, you now have cards to study from.

You can buy a pack of any size note cards. The goal is to make a set of cards that will be useful to study from and to use them to quiz yourself. In order to accomplish this, follow the guidelines below.

a. Use note cards for vocabulary, formulas, and example problems.
b. Put only one (1) word/formula/example/etc. on a card.
c. Use the front for the vocabulary word, title of the formula, or the problem; then on the back put the definition, formula, or solution to the problem (with all steps).
d. Organize your cards by category, and have fun quizzing yourself out loud, in writing or in groups.
e. The problems you put down are a great source for creating your own practice test

Lesson 6 Activity: Note Cards

Directions: Make at least 15 note cards for the material covered on the next exam. Then write an honest appraisal of the experience. (Don’t forget to turn in the notecards to your instructor.)

Do you think it would be helpful enough to you personally to start doing this for every exam? Why or why not?

___________________________________________________
___________________________________________________
___________________________________________________

Note: There are several free online programs that can help you make note cards. One of these is at www.quizlet.com. If you prefer working online, try out this program, or another of your choosing. You may print out the cards to turn in or write out your link for the instructor to check.
Lesson 7

Doing the Homework

1) Complete your homework assignment every night, and certainly before the next class. In college classes, each topic is covered just once, and the next class session takes up a new topic.

2) Read the section in the book and your lecture notes before starting.

3) Write out step by step solutions to your homework problems neatly in a notebook, so that you can use your solutions later for test preparation. Make sure to pay attention to the following:
   • Never do your homework in pen. Ink is the number one ingredient in the recipe for sloppy homework.
   • Space things out to allow for comments or questions about the problems.

4) Read the instructions for homework problems carefully. Similar instructions will be used on the test, so you want to get used to the language. Think of doing homework as practicing for the exam.

5) If a problem is too difficult, check the book and your notes for similar examples or for a discussion that includes the same concepts or words in the problem. If you become frustrated with a problem and you have genuinely exhausted every possible resource for trying to solve it, work for 10 minutes beyond that point and then, if you still don’t get it, put a question mark by the problem and move on. TIP: If you keep these question numbers on a special page, you will be able to find them easily to ask the teacher about them, and later to review them for the exam.

6) Check your work by looking at the answers in the back of the book for odd problems.
   • If your answer looks different from the one in the book, check to see if your answer is equivalent to the book answer, but in another form.
   • If your answer is incorrect, try to find your mistake. It may be a single arithmetic or algebra error, or a more substantial misunderstanding.
   • If you cannot find your mistake, put a question mark by the problem, mark it on your “question page” and move on.

7) Avoid getting bogged down on the homework. Remember the available sources for help.
   • Find classmates to do homework with.
   • Get help from your teacher during office hours.
   • Ask tutors in the Center for Academic Success (CAS) for help.

8) Take short breaks while doing homework. Getting up, walking around, stretching, getting a snack, or thinking about something fun helps. For each 30 to 40 minutes of studying, you can take a 5 to 10 minute break.

9) Try to do as many assigned homework problems as you can. Your goal is to feel completely confident, so that you can work similar problems efficiently on the test. After completing the assignment, do the following:
   • Close the book and list the skills and concepts you learned. Then open the book and edit your list.
   • Make note cards with challenging problems and/or main concepts.
   • Prepare your list of questions to ask, including any problem that you still cannot work out, and any points that seem unclear to you.

(Continue on next page)
10) When asking questions, try to understand the reasoning behind the steps in the solution. Don’t memorize steps or look for “short cuts”. They may not apply to all situations. If you understand the steps, you won’t have to memorize them, because you’ll be able to figure them out when you need them.

11) After getting help, make sure you can rework the problem by yourself. Then use what you learned to check that similar problems you already completed are correct.

Lesson 7 Activity A: Homework Skills worksheet
Directions: Do the following worksheet with your study group and keep the answers in your journal or Math Study Skills folder.

The following exercise helps you evaluate your current approach to homework. Use as much detail as possible.

**Why do homework?**
Who benefits when you do homework? ____________________________________________

What are the advantages of doing homework? _______________________________________

How can your graded homework be useful to you? ____________________________________

**Lesson 7 Activity B: Doing Homework**
Directions: Each group member should take out their last math homework paper and pass it to another member of the group.

Looking at your classmate’s homework paper:
List 3 good things about the homework.
1. ____________________________________________
2. ____________________________________________
3. ____________________________________________

List 3 things that could be improved.
1. ____________________________________________
2. ____________________________________________
3. ____________________________________________

Share your results with your group.
Is there one common area in which you all could improve? ________________________________

(Continue on next page)
Answer each of the following questions individually and then discuss your answers with your group members.

1. When do you usually do your math homework?

2. Where do you usually do your math homework?

3. What is going on around you when you do your math homework?

4. What would be the optimal environment for you to do your homework?

5. What do you do if you get stuck on a homework problem?

6. When you finish a homework assignment, is the paper neat and organized?

7. How do you feel when you finish a homework assignment?

This table lists several practices that students use when doing math homework. Check the ones you usually do. In the next column, check the practice that will help you succeed in this class.

<table>
<thead>
<tr>
<th>Homework Practice</th>
<th>I usually do</th>
<th>Will help me succeed!</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do homework where there is help available.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Write my name at the top of the paper.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>List the assignment at the top of the page.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number each problem.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Keep problems in order.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Write neatly and legibly.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Show all work—not just answers.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Refer to similar examples in text or notes.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check my answers in the back of the book.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attempt to correct wrong answers.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Highlight problems on which I need extra help.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Redo a problem on my own, if I received help with it.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Save my homework to review before the test.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feel proud of my work.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Continue on next page)
Lesson 7 Activity C: Wrong Answers and Getting Stuck

1. When you find that you got a problem wrong after checking in the back of the book, do you….
   (check one or two)
   (a)_____ Give up and move on to the next problem.
   (b)_____ Copy the correct answer from the back of the book to your homework paper.
   (c)_____ Try to find a mistake in your work. If you can’t find one, have a classmate, tutor, or your teacher try to find the mistake and help you correct it.

Every time you get a math problem wrong, it’s an **opportunity** to improve your skills. If you choose to ignore this opportunity, you’re going to keep making the same mistake in other problems and on the test. If there’s something you’re misunderstanding, this misunderstanding might make it impossible for you to understand material in the future, leading to a downward spiral.

If you chose (a) above, you’re ignoring this opportunity. If you chose (b), you’re ignoring the opportunity *and* your teacher probably considers it cheating!

2. Your assignment for the next week: Over the next week, get help from a classmate, tutor, or your teacher for at least two problems for each homework assignment you work on, after finding you got the answers wrong when checking the back of the book. (You might be thinking “what if I get all the problems right the first time?” Don’t worry: **no one** gets everything right the first time.) You don’t have to turn anything in for this assignment other than your improved homework.
Lesson 8

Test Preparation

Most cases of “math anxiety” are not caused by math, but are actually the result of test anxiety, due to inadequate study and test-preparation skills. Imagine how you would feel if you were giving a piano recital, and you hadn't practiced the piece you have to play. You would probably feel the same anxiety you feel when confronted with a math problem you weren't prepared to solve.

Anxiety during a test can cause the dreaded “mental block.” A mental block occurs during a test when there is inadequate preparation before the test. The trick to avoiding mental blocks is to prepare for the test so thoroughly and comprehensively that you build your confidence to a high level, based on a high level of knowledge.

Have you ever been in a situation like this?

“I studied 19 hours for my math test and only got a 37% on it.”

If you receive a low grade on a test after putting in a lot of time studying, it usually indicates that you have used ineffective study methods to prepare for the test. You will get better results if you use your time wisely and efficiently.

Math Test Study Plan

Start your test preparation early--at least several days before the test. Successful test preparation involves several steps and you need sufficient time to complete each one.

1. **Homework Review.** Check that you have completed every homework assignment that the test will cover. Not completing every assignment causes holes in your body of knowledge. Make sure that every problem is understood and done with integrity. Integrity means that work has not been copied from the student solution manual, and problems for which help was received have been redone to guarantee that you can do them yourself!

2. **Test and Notes Review.** Review your class notes and the textbook sections that deal with the topics on the test. Pay particular attention to any homework questions you wrote in your notebook. By the time of the test, you must get all of these questions cleared up. Also Review the Chapter Summary in your textbook to make sure you understand all the key concepts. Write out a list of important facts, formulas and definitions that you will need on the test. Make sure that you can write any formulas from memory.

3. **Practice Test.** Once you have completed steps 1 and 2, you are ready to take a practice test, perhaps one your teacher has given you or one you made up. Or if you study with a partner or a group, you could make and exchange practice tests. Then write out the solutions to your practice test under test conditions: no notes, no books, and no help! Your practice test will probably be longer than an actual test, because you have included all possible problem types. Nonetheless, estimate a reasonable time deadline for your practice test so that you will get used to working under time pressure. Then get your practice test corrected, and work on any remaining weaknesses.

(Continue on next page)
**Final Preparation Tips**

- Do not try to learn new material the night before the test.
- Group study sessions are very valuable, but do not let them substitute for your own individual study time.
- Get a good night’s sleep the night before the test.
- Eat a healthy breakfast on the morning of the test.

**Lesson 8 Activity: Test Preparation Exercises**

Use the checklist below to analyze the test prep you used on your last test and then design your strategy to prepare for your next test!

<table>
<thead>
<tr>
<th>Strategy</th>
<th>My prep for last test (yes, no, or “sort of”)</th>
<th>Countdown for next test (Check these off as you complete them)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test prep started several days before the test</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Every homework assignment completed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Every problem understood</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Every problem completed with integrity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class notes reviewed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chapter Summary reviewed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>My Practice Test worked</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chapter Review/Chapter Test worked</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resources for help used</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

To be better prepared for the next test I need to:

a. Continue what I’ve been doing____

b. Make a few changes to my test prep strategies____

c. Make major changes to my test prep strategies____

List the resources available to you to support your test prep:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
Lesson 9

Post-Test Analysis

Learning From Your Returned Test
You can learn a lot by going over your returned test. If you are still hazy about some of the material on this test, it will make it difficult to master the material on the next test. Besides, you'll see it all again on the final exam. **Save your returned tests** (along with quizzes, homework, etc.) to help you study for the final.

Lesson 9 Activity A: Post Test Check-up.

I just got my test back and I should evaluate my performance.

1. I attended every class since the last test. Yes____ No____
2. I am satisfied with the quality of my homework. Yes____ No____
3. I am satisfied with the grade I earned on this test. Yes____ No____

Fill in either the left half or the right half of this table that applies to how you feel about your grade on the last test.

<table>
<thead>
<tr>
<th>I am HAPPY with the grade I earned on this test</th>
<th>I am UNHAPPY with the grade I earned on this test</th>
</tr>
</thead>
<tbody>
<tr>
<td>The study skills and strategies that worked for me and that I plan to continue are</td>
<td>In order to do better on the next test, I need to change</td>
</tr>
<tr>
<td>____________________________________________</td>
<td>______________________________________________</td>
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<tr>
<td>____________________________________________</td>
<td>______________________________________________</td>
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<td>____________________________________________</td>
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<tr>
<td>____________________________________________</td>
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<tr>
<td>____________________________________________</td>
<td>______________________________________________</td>
</tr>
</tbody>
</table>

The area that I need to improve is __

_____________________________________

_____________________________________

_____________________________________

_____________________________________

In order to do better on the next test, I need to change

_____________________________________

_____________________________________

_____________________________________

_____________________________________

I will effect this change by ______

_____________________________________

_____________________________________

_____________________________________

_____________________________________

The study skills and strategies that worked for me and that I plan to continue are

_____________________________________

_____________________________________

_____________________________________

_____________________________________

(Continue on next page)
Make a commitment to complete the following process after ever test

<table>
<thead>
<tr>
<th>I WILL</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) correct every problem that I miss on the test.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) make sure I can do each problem on my own and understand it completely.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• This will fill in my gaps in the knowledge tested and help me as I progress through the course.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• This will also help prepare me for the Final Exam.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) rework, on a separate sheet of paper, all the problems where I missed even one point. Then I will staple that paper with all the corrections to the test. This will give me a great Final Exam Study Guide.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Lesson 9 Activity B: Test Correction.

Directions: On a separate piece of paper, follow the instructions below to correct your mistakes on the test. This is a lot of work! Don’t wait until the day before it’s due, because you’ll need to be able to get lots of help.

1. Draw a line down the center of your paper. On the left side, you’ll put correct solutions, and on the right side, you’ll write explanations.

2. For each problem on which you did not receive full credit, re-do the entire problem on the left side. Make sure your answer is correct by comparing it with the test of a student who got it right, or asking your teacher or a tutor.

3. On the right side, write an explanation of the mistake you made. Use complete sentences. This could be something like: “I had no idea what to do.” Or “I forgot about the vertex form of a quadratic equation.” Or maybe you made a silly mistake: “I took the square root of both sides, but I forgot to include a $\pm$ on one side. If I’d checked my work carefully I would have noticed the mistake.”

4. Staple your test corrections to the original test and turn it in.

(Continue on next page)
Lesson 9 Activity C: Test Strategy Analysis

Directions: Use the following descriptions to fill in the chart. Answer the questions on a separate sheet of paper.

Look at your graded test and analyze whether each point loss was due to a careless error, a concept error, or your having been unprepared for that problem.

A careless error is one where you understood the problem and knew how to solve it, but you made a relatively minor mistake in calculations etc.

A concept error is one where you really didn’t understand the concept behind the problem. No matter how much time was available for a problem like this, you wouldn’t have been able to do it because you didn’t know how to approach it. You felt like you worked hard to prepare yourself for problems like this, but there was something you forgot or didn’t understand.

Being unprepared for a problem means you didn’t know how to do the problem because you hadn’t properly done the homework that would have prepared you for it, or didn’t study enough.

Fill in the chart and find the total in each column.

<table>
<thead>
<tr>
<th>Problem</th>
<th>Number of test points taken off for careless errors</th>
<th>Number of test points taken off for concept errors</th>
<th>Number of test points taken off for being unprepared</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
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<td>...</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In which column did you have the most missed points?

(Continue on next page)
First, consider the careless error points.
Careless errors are often caused by hurrying during a test or by lack of concentration due to test anxiety or over-confidence. So here are some strategies that have worked for other math students:

- **Do the easiest problems first.** When you first start on a test, look it over from beginning to end and note which problems will be easiest for you. Do all those problems first, to ensure that you don’t leave an easy problem blank just because it is at the end of the test. Finishing the problems you find easy will help build your confidence! Then go through the rest of the test from beginning to end.
- **Work carefully and neatly.** As you do each problem try to focus on one step at a time.
- **Review each problem to look for careless errors** when you finish the test. Arithmetic mistakes and sign errors should be found and corrected before you turn your test in.
- **Whenever possible check the problem.**

A lot of points can be gained by slowing down and being careful!

- What are two things you will do next time to prevent careless errors?
  1. 
  2. 

- Now take half of your “careless” points and add them back to your test total.
  - What could your test grade have been? ________
  - Would that have changed your A/B/C grade? ______________

Now consider the concept error points.
A high total in this column tells you that you didn’t understand the concepts very well. As you do your work day–to–day you might think you “get it,” but you don’t always verify that you understand each problem in the homework completely. You may understand a math concept for the two hours you’re working on the homework problems, but forget it by the next day.

- **Review earlier sections.** Make sure to spend some homework time reviewing earlier sections, instead of saving all the review for test time.
- **Get the help you need immediately!** Math concepts build on each other. Each new idea is based on many previous concepts. Make sure you get the help you need immediately, as soon as you find yourself beginning to feel lost, so that the confusion doesn’t compound itself – otherwise it can become like a snowball, getting bigger and bigger as it rolls through the snow.

If your total loss due to concept errors is fairly large, find out where you can get the help you need. Pierce has places available just for you to get help with your math.

- List two places you can go to get help with your math:
  1. 
  2. 

A high concept error total is cause for concern and must be addressed immediately to guarantee success!

(Continue on next page)
What about the points lost because you were unprepared?
Consider why you took the test without being fully prepared. Oftentimes, activities and responsibilities in life interfere with good intentions about being diligent in attending class, reading the textbook, and doing all the assignments. It may be time to:

- **Re-examine your weekly schedule** and make sure you are devoting a sufficient amount of time to this class. Lay out a time management grid of your schedule making sure to schedule your math study time.
- **Re-commit yourself to succeeding in this class**; think about your college and career goals and remind yourself of how this course helps you get one step closer to achieving them.
- **List two steps** you will take to remedy being unprepared.
  1. 
  2. 
Lesson 10

Using a Topic List in Test Preparation

This lesson expands on the methods of test preparation we started in lesson 8. After you have tried them all, you will be able to pick and choose the methods that work best for you. Start by reviewing lesson 8.

**Topic Lists:** One way to guarantee success is to master all topics and concepts that will be included on the test. A good way to do this is to write a list of these topics. The very act of writing the list helps you to remember these concepts.

**Lesson 10 Activity:** Create and turn in a Topic List and Topic Questions for test ______

1. **Topic List.** Go to each section and **write out a list of all the topics** the test will cover. Make your “topic list” as specific as possible. Use the subheads of the section or the boxed information to help you find topics. Be sure to include the section number and page with your topics.

2. **Topic Questions.** On a new piece of paper, choose a representative problem from the homework, or from the examples in the text, for each topic. Write down the directions for the problem. Fold your paper in half lengthwise. Write each problem chosen on the left side of the paper making sure to list the section and problem number where you found it. Work out the answer on the right side of the paper.

   **Example:**
   1. **Topic:** Use the zero factor principle to solve quadratic equations. (section 5.5, pg 433)
   2. **Hw directions:** “Solve each equation.”
   3. **Hw problems:** page 442 #23: \(10x^2 - 15x = 0\)
   4. **Solution:** \(10x^2 - 15x = 0\) (Factor out the GCF from the left side expression. The GCF is 5x)

      \[5x(2x - 3) = 0\] (Use the “Zero factor Principle” to set each factor equal to 0.)

      \[5x = 0 \text{ OR } 2x - 3 = 0\] (Solve each equation.)

      \[x = 0 \text{ OR } x = \frac{3}{2}\]

3. **Mastering Each Topic.** Now that you have the topic questions, fold the paper in half so that you can’t see the solutions and work each problem again on another sheet of paper. Then check your answers with the solutions on the covered up side of the topic questions paper. You must get to the point where you can work out the entire solution to the problem without consulting your notes or book. It is critical that you work on one topic at a time. It is not enough to get a general idea of how the problems work; you must develop total confidence in your ability to work problems on each topic.

4. **Turn in** your topic list and your set of topic questions and solutions.
Lesson 11

Mid-semester Check-up

You should always be aware of where you stand in the course and what your goals are. You may need to change your approach to the class as you go along in order to achieve your goals. If at any time you are uncertain as to where you stand, you should make an appointment with your instructor to go over your status and discuss your goals so that your instructor can help you stay on track.

**Lesson 11 Activity: Mid-semester checkup**

*Directions: Complete the following checkup. Make an appointment to meet with your instructor at office hours if you are missing information and to go over your goals and strategies.*

My grade in this class right now is _______.

I feel  proud / ok / disappointed with my class grade, because ________________________

*circle one*

__________________________________________________________

The one study strategy that has helped me most so far is _____________________.

because ______________________________________________________

Two other study skills I used that have also been helpful were

1._________________________________________________________________

2._________________________________________________________________

My goal is to have a grade of __________ for my final course grade.

In order to meet my grade goal, I need to improve my math study habits by taking the following steps. I will:

1._________________________________________________________________

2._________________________________________________________________

(Continue on next page)
So far in this class I have:

Been absent
   _____ Never        _____ 1 or 2 times        _____ 3 or more times

Arrived in class on time
   _____ Always       _____ usually          _____ rarely

Brought my text, notebook, and calculator to class
   _____ Always       _____ usually          _____ rarely

Paid close attention and taken good notes in class
   _____ Always       _____ usually          _____ rarely

Organized my papers in my notebook the way my teacher recommends
   _____ Always       _____ usually          _____ rarely

Scheduled time for homework
   _____ Every day    _____ 2-3 times/week    _____ once a week

Re-read or re-copied my class notes before doing the homework
   _____ Always       _____ usually          _____ rarely

Completed each homework assignment before the due date
   _____ Always       _____ usually          _____ rarely

Reviewed topics and/or problems that gave me trouble
   _____ Always       _____ usually          _____ rarely

Studied with a friend or study group
   _____ Always       _____ sometimes        _____ never

Used my instructor’s office hours
   _____ Often        _____ 1 or 2 times      _____ never

Used the Math Study Center or Tutoring Center
   _____ Every week   _____ 1 or 2 times      _____ never

I will improve my chances of success in this class by taking the following steps. I will:

1.

2.
Lesson 12

Test-Taking Skills

Stress Reduction
You have already taken steps to reduce stress by preparing thoroughly for the test. Here are a couple more tips for the day of the test:

- Make sure you have all the required materials in your backpack: pencils, erasers, highlighters, calculator, notes, Scantron/bluebook/graphing paper or other writing materials and any assignment you need to turn in.
- Pack “comfort items” such as tissues, water, sweatshirt.
- Do some simple exercises and/or stretches before the test. Exercise helps reduce stress.
- Always arrive a little early for the test. Leave yourself time to get settled and get your materials together. Arriving late will only make you flustered and make it harder for you to concentrate.

Taking the test
1. Memory dump. As soon as you receive the test, write down all the formulas or other information you think you might forget.
2. Preview the test. Look through the entire test quickly and briefly to see the types of problems and their point values.
3. Second memory dump. Write down anything else jarred from your memory during the preview.
4. Strategy. Decide upon the best way to get the most points in the least amount of time. Do the easiest problems first and save the hard ones for last. Make sure you tackle problems with high point value.
5. Start working through the test as quickly as you can while still being accurate. Review your answers to make sure they make sense.
6. Clearly write down each step in the problems in order to get partial credit.
7. Do not spend too much time on any one problem. If you find a problem you don’t know how to work, automatically skip it and go on to the next one. When you come to the end of the test, go back to the problems you skipped. Mentally run through your topic list to identify the type of problem and how to begin.
8. Guess at any remaining problems or do as much work on them as you can.
9. Review the test for careless errors.
10. Use all the allotted test time. If you have time left, check the solution to each problem, or rework the problem on a separate sheet of paper. Remember: A few extra minutes during test time could save you from having to repeat an entire semester!

Five Common Test-Taking Errors:
1. Misunderstanding or not following the directions.
2. Careless arithmetic or algebra errors.
3. Concept errors. These are errors made when you don’t understand the properties or principles needed to work the problem. If not corrected, concept errors will follow you from test to test, causing you to lose points. Students who have too many concept errors will fail the course. It is not enough to find out how to work that particular problem -- you must learn why you missed that problem, and get help as soon as possible.
4. Application errors occur when you “know” the concept but cannot apply it. Being able to state a rule or formula is not enough to be able to use it! To reduce application errors, you must practice the type of problem before the test.
5. Strategy errors in test-taking itself. Some examples are:
   - Not completing problems to their last step.
   - Spending too much time on one problem.
   - Leaving answers blank

Everyone makes some of these errors occasionally, but if you consistently make one or more of these mistakes, you need to consciously check for that error after you finish each test.

(Continue on next page)
### Lesson 12 Activity: Test Taking Skills

**Directions:** Respond to each statement by checking Always (A), Sometimes (S) or Never (N)

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>S</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Before the test</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>___</td>
<td>___</td>
<td>___</td>
<td>I arrive on time or even early so I feel calm and ready.</td>
</tr>
<tr>
<td>___</td>
<td>___</td>
<td>___</td>
<td>I set out the required materials so I feel prepared.</td>
</tr>
<tr>
<td>___</td>
<td>___</td>
<td>___</td>
<td>If a problem in the rest of my life may interfere with my test performance, I write it down on a card and zip it in my backpack until after the test.</td>
</tr>
<tr>
<td>___</td>
<td>___</td>
<td>___</td>
<td>I ignore others in the room--I do not want to pick up their negativity or anxiety. I am prepared and confident.</td>
</tr>
<tr>
<td>___</td>
<td>___</td>
<td>___</td>
<td>I check my inner voice. I turn any negative thoughts into positive statements. “I am prepared; I’ve done what I can; I am ready to succeed; I can do math!”</td>
</tr>
<tr>
<td><strong>The test itself</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>___</td>
<td>___</td>
<td>___</td>
<td>I do a “data dump” as soon as I get the test. I no longer need to think about remembering these facts/formulas.</td>
</tr>
<tr>
<td>___</td>
<td>___</td>
<td>___</td>
<td>I scan the test, reading all problems before I begin to work any.</td>
</tr>
<tr>
<td>___</td>
<td>___</td>
<td>___</td>
<td>I read directions carefully – I circle, underline or highlight key words and directions.</td>
</tr>
<tr>
<td>___</td>
<td>___</td>
<td>___</td>
<td>I note easy problems and do them first to build my confidence and ensure those points.</td>
</tr>
<tr>
<td>___</td>
<td>___</td>
<td>___</td>
<td>If I can’t do a problem immediately, I write down anything I can think of such as formulas, pictures, etc., and then I move on and return to it later. The solution may come to me as I work on the other problems.</td>
</tr>
<tr>
<td>___</td>
<td>___</td>
<td>___</td>
<td>I show all my work. I write all steps, reasoning, and supporting evidence. This is really helpful when my teacher awards partial credit.</td>
</tr>
<tr>
<td>___</td>
<td>___</td>
<td>___</td>
<td>I check my work.</td>
</tr>
<tr>
<td>___</td>
<td>___</td>
<td>___</td>
<td>I check answers. I make sure word problems have reasonable answers.</td>
</tr>
<tr>
<td>___</td>
<td>___</td>
<td>___</td>
<td>I pace myself.</td>
</tr>
<tr>
<td>___</td>
<td>___</td>
<td>___</td>
<td>I do not turn in my test early. I use the time to carefully go over my work.</td>
</tr>
<tr>
<td>___</td>
<td>___</td>
<td>___</td>
<td>I ignore others. I remember that those done early may be turning in a blank test.</td>
</tr>
<tr>
<td><strong>Stress reduction during the test</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>___</td>
<td>___</td>
<td>___</td>
<td>I check my inner voice. I turn any negative thoughts into positive statements.</td>
</tr>
<tr>
<td>___</td>
<td>___</td>
<td>___</td>
<td>I imagine and visualize that I am in my favorite pleasant relaxing situation.</td>
</tr>
<tr>
<td>___</td>
<td>___</td>
<td>___</td>
<td>I take mental breaks.</td>
</tr>
<tr>
<td>___</td>
<td>___</td>
<td>___</td>
<td>I do stress reducing exercises.</td>
</tr>
<tr>
<td>___</td>
<td>___</td>
<td>___</td>
<td>I do deep breathing.</td>
</tr>
<tr>
<td>___</td>
<td>___</td>
<td>___</td>
<td>I do muscle tensing and relaxing.</td>
</tr>
<tr>
<td>___</td>
<td>___</td>
<td>___</td>
<td>(other) __________________________________________________________</td>
</tr>
<tr>
<td>___</td>
<td>___</td>
<td>___</td>
<td>(other) __________________________________________________________</td>
</tr>
</tbody>
</table>

**Look at your checklist.**

- Can you think of any technique(s) that you use regularly that is not on the checklist? Add it (them) in the spaces provided in the checklist.
- Look at the ‘Sometimes’ and ‘Never’ categories. List three techniques that you may try during the next test.

1)_________________________________________________ __________________________

2)_________________________________________________ _________________________

3)_________________________________________________ _________________
Lesson 13

Post-Test Analysis (Again)

Learning From Your Returned Test
You should be doing a post-test analysis after every exam. Review the strategies in Lesson 9 and then do the following activities.

Lesson 13 Activity A: Test Correction.
Directions: On a separate piece of paper, follow the instructions below to correct your mistakes on the test. This is a lot of work! Don’t wait until the day before it’s due, because you’ll need to be able to get lots of help.

1. Draw a line down the center of your paper. On the left side, you’ll put correct solutions, and on the right side, you’ll write explanations.

2. For each problem on which you did not receive full credit, re-do the entire problem on the left side. Make sure your answer is correct by comparing it with the test of a student who got it right, or asking your teacher or a tutor.

3. On the right side, write an explanation of the mistake you made. Use complete sentences. This could be something like: “I had no idea what to do.” Or “I forgot about the vertex form of a quadratic equation.” Or maybe you made a silly mistake: “I took the square root of both sides, but I forgot to include a ± on one side. If I’d checked my work carefully I would have noticed the mistake.”

4. Staple your test corrections to the original test and turn it in.

(Continue on next page)
Lesson 13 Activity B: Test Strategy Analysis

Directions: Use the following descriptions to fill in the chart. Answer the questions on a separate sheet of paper and put it in your journal.

Look at your graded test and analyze whether each point loss was due to a careless error, a concept error, or your having been unprepared for that problem.

A careless error is one where you understood the problem and knew how to solve it, but you made a relatively minor mistake in calculations etc.

A concept error is one where you really didn’t understand the concept behind the problem. No matter how much time was available for a problem like this, you wouldn’t have been able to do it because you didn’t know how to approach it. You felt like you worked hard to prepare yourself for problems like this, but there was something you forgot or didn’t understand.

Being unprepared for a problem means you didn’t know how to do the problem because you hadn’t properly done the homework that would have prepared you for it, or didn’t study enough.

Fill in the chart below putting the number of points missed on each problem under the correct heading and then find the total in each column.

<table>
<thead>
<tr>
<th>Problem</th>
<th>careless error</th>
<th>concept error</th>
<th>unprepared</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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<td>…</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Total points</td>
<td>Total points</td>
<td>Total points</td>
<td></td>
</tr>
</tbody>
</table>

In which column did you have the most missed points?

Write a short paragraph to compare your answers in this activity to what you wrote in Lesson 7.

(Continue on next page)
**First, consider the careless error points.**

Careless errors are often caused by hurrying during a test or by lack of concentration due to test anxiety or over-confidence. So here are some strategies that have worked for other math students:

- **Do the easiest problems first.** When you first start on a test, look it over from beginning to end and note which problems will be easiest for you. Do all those problems first, to ensure that you don’t leave an easy problem blank, just because it is at the end of the test. Finishing the problems you find easy will help build your confidence! Then go through the rest of the test from beginning to end.

- **Work carefully and neatly.** As you do each problem try to focus on one step at a time.

- **Review each problem to look for careless errors** when you finish the test. Arithmetic mistakes and sign errors should be found and corrected before you turn your test in.

- **Whenever possible check the problem.**

A lot of points can be gained by slowing down and being careful!

- **What are two things you will do next time to prevent careless errors?**
  1.
  2.

- **Now take half of your “careless” points and add them back to your test total.**
  - What could your test grade have been? _____
  - Would that have changed your A/B/C grade? ____________

1. What did you list last time in lesson 7 as two things you could do to prevent careless errors?

2. Did you do them? If so, did it help? If not, would it have helped? Write a short paragraph to explain.

(Continue on next page)
Now consider the concept error points.
A high total in this column tells you that you didn’t understand the concepts very well. As you do your work day–
to–day you might think you “get it”, but you don’t always verify that you understand each problem in the
homework completely. You may understand a math concept for the two hours you’re working on the homework
problems, but forget it by the next day.
• Review earlier sections. Make sure to spend some homework time reviewing earlier sections, instead of
saving all the review for test time.
• Get the help you need immediately! Math concepts build on each other. Each new idea is based on many
previous concepts. Make sure you get the help you need immediately, as soon as you find yourself
beginning to feel lost, so that the confusion doesn’t compound itself – otherwise it can become like a
snowball, getting bigger and bigger as it rolls through the snow.

If your total loss due to concept errors is fairly large, find out where you can get the help you need. Pierce has
places available just for you to get help with your math.
• List two places you can go to get help with your math:
  1.
  2.

A high concept error total is cause for concern and must be addressed immediately to guarantee success!

Review what you said last time in lesson 7 about where to go to get help with your math.

1. Did you go there?

2. Did you get help with concepts you didn't understand? From whom?"

3. Write a short paragraph about the experience.

(Continue on next page)
What about the points lost because you were unprepared?
Consider why you took the test without being fully prepared. Oftentimes, activities and responsibilities in life interfere with good intentions about being diligent in attending class, reading the textbook, and doing all the assignments. It may be time to:

- **Re-examine your weekly schedule** and make sure you are devoting a sufficient amount of time to this class. Lay out a time management grid of your schedule making sure to schedule your math study time.
- **Re-commit yourself to succeeding in this class**; think about your college and career goals and remind yourself of how this course helps you get one step closer to achieving them.
- **List two steps** you will take to remedy being unprepared.
  1. 
  2.

1. What 2 steps did you list last time to remedy being unprepared?

2. Did you do them?

3. Now that you know yourself a little better, list 2 steps you will really take to remedy being unprepared.
Lesson 14

Using Review Sheets in Test Preparation

As mentioned before, many students feel that they understand the homework, but then don’t perform as well on exams. One possible problem is retention. In a math class, you must understand the material, apply it, and retain it! Creating a review sheet is a technique to help you retain (remember) information. First of all, the act of sifting through the information and choosing what is important is a great review. Then, the actual creation of the review sheet helps reinforce the material and of course, you now have a review sheet to study from.

Review sheets: These are best done to study for an exam. The goal is to include all the important information on only one sheet of paper. Give yourself a time limit for the creation of the review sheet, and do it all in one sitting.

1. Survey all the material for the exam: notes and text. Look for comments you made in your notes about problems and concepts the instructor noted as important.
2. Consider any important vocabulary terms.
3. List any relevant formulas.
4. Make notes/hints for yourself for problems that are particularly difficult for you.
5. Predict the types of questions that will be on the exam, and include some examples.

Lesson 14 Activity A: Review Sheets

Directions: Create and turn in a review sheet for the material on test_____________________. Then, below, discuss the following points: 1) How did you create the sheet? 2) How did you organize it? 3) Do you think creating it will have a positive effect on your retention for the exam? 4) Do you think you’ll use this technique in the future? Why or why not?

1._________________________________________________ _____________________
   __________________________________________________________

2._________________________________________________ _____________________
   __________________________________________________________

3._________________________________________________ _____________________
   __________________________________________________________

4._________________________________________________ _____________________
   __________________________________________________________
Lesson 15

Math Anxiety Again

Lesson 15 Activity: Do you still have Math Anxiety?

Directions: Rate your answers from 1 to 5 by circling the desired number; add them up and check your score below.

(1) = Strongly Disagree, (5) = Strongly Agree.

1. I cringe when I have to go to math class. 1 2 3 4 5
2. I am uneasy about going to the board in a math class. 1 2 3 4 5
3. I am afraid to ask questions in math class. 1 2 3 4 5
4. I am always worried about being called on in math class. 1 2 3 4 5
5. I understand math now, but I worry that it's going to get really difficult soon. 1 2 3 4 5
6. I tend to zone out in math class. 1 2 3 4 5
7. I fear math tests more than any other kind. 1 2 3 4 5
8. I don't know how to study for math tests. 1 2 3 4 5
9. It's clear to me in math class, but when I go home it's like I was never there. 1 2 3 4 5
10. I'm afraid I won't be able to keep up with the rest of the class. 1 2 3 4 5

My score is now __________

My Score at the beginning of the semester (from lesson 2) was ________

Write a short paragraph to compare your previous score to your new score. Has your math anxiety decreased? Why or why not?

________________________________________________________________________________________

________________________________________________________________________________________

________________________________________________________________________________________

________________________________________________________________________________________

________________________________________________________________________________________
Lesson 16

The Final Exam

You start preparing for the final exam on the first day of class. You need to find out if the final is cumulative or not and if your instructor will create his/her own final or use a department final. Also, you should find out what percent of your grade the final is worth. To prepare for the final, you should use all the techniques you learned for preparing for the other in-class exams and your post test analyses. Things you have been using that you need to continue to use in preparation for the final:

1) All your note cards.
2) All your review sheets.
3) A log of problems collected from the homework that you have consistently missed.
4) All of your practice tests.
5) All of your returned tests and post-test analyses.

To prepare for the final:

1) Survey your post test analyses, and redo problems that you missed because of concept errors. Get help for the problems you still cannot solve.
2) Review and rework problems from your problem log.
3) Create a practice final. You can do this on your own using your note cards and the chapter tests, or ideally work with a study group where each member will bring 10 problems and solutions.
4) Work out the practice final in a test setting.
5) Correct the practice final and get help where needed.

Lesson 16 Activity: Preparing for the final exam

Directions: Collect all the materials listed above (note cards, review sheets, homework, practice tests, tests and post-test analyses) and bring them to class so your instructor can check them off.

Then:

1. Write up a practice test of 10 problems, all on different topics, chosen from your book or from the MET Sample Final. It should be clearly written or typed on a separate sheet of paper.

2. Write the solutions on a different sheet of paper, showing all steps.

3. Exchange your practice test with another student and take each other’s tests.

4. Correct your study partner’s paper after he takes your “exam.”

5. Turn in the corrected practice exams with the names of the person who took the test and the person who graded it clearly labeled on each.