

Task #2: Strategies for Careful Exam Preparation

Consider how you prepare for an exam. Successful exam preparation requires a strategy and a plan. If you make a plan and carry it out, not only will you be better prepared, but also you will feel more confident and less anxious about the exam. Check the appropriate column for your current behavior.

When I prepare for an exam, I...	Always	Sometimes	No, but I should	No, I never thought of it
5) Start exam preparation early, at least several days before the exam, allowing sufficient time for several preparation strategies.				
6) Identify the chapters and sections which will be covered on the exam.				
7) Make 3x5 study cards or a study sheet of any formulas you will need to memorize.				
8) Complete every homework assignment that the exam will cover to remove holes in your knowledge.				
9) Understand every homework problem and do it with integrity. Integrity means not copied from the student solutions manual or another person, and re-doing every problem for which you got help (including MXL/ MML Show Me or Example), so you know you can do it yourself.				
10) Read and study the instructions for each homework problem and any vocabulary you will need for understanding exam expectations. Add words you don't remember to your flash cards or study sheet.				
11) Review class notes. Pay particular attention to areas you marked as needing further study. Add step-by-step procedures to flash cards or study sheet.				
12) Review the Chapter Summary in textbook (or in MXL/MML) to make sure you understand all the key concepts. Do more exercises in any section where more practice is needed.				
13) Attend a workshop in the Math Center or MESA Center				
14) Work the Chapter Reviews.				
15) Study your flash cards or study sheet on several separate occasions, being sure to sleep between study sessions.				
16) Re-read objectives for each section. For each, choose a representative problem to make a practice exam. List the section and problem number. Write the answer on a separate sheet.				
17) Work the practice exam you created with your books and notes closed, with time limited as for the real exam. Imagine being in the exam room. Practice self-calming. When time is up, check your answers, then re-work any problems you missed.				
18) Identify the types of problems you can do quickly and those which take you more time. Use a clock to see how long each problem takes, and practice doing slower problems more quickly or choosing more efficient methods.				
19) Use all available resources to get help with any topics or problems you do not understand or cannot do by yourself.				

Task #3: Study the Right Things

Learning math is like learning a foreign language. The instructions are written in English, yet the words have special meanings in math class. Many fields, not just math, have these “technical terms”. Technical terms may be included in the instructions, expectations, notation, or any combination of these.

Always	Sometimes	No, but I should	No, I never thought of it
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Some math problems look the same, but have different instructions.

20) When I see a question, I read the instructions.				
21) When I do a homework question, I memorize which step-by-step procedure is needed for these instructions.				
22) After I have studied for an exam, I can list the different instructions that will be on the exam.				

Some math problems have the same instructions, but are actually different. (e.g. “Factor” or “Solve”)

23) When I work many examples of a type of problem, the harder problems sometimes include common pitfalls. I study how to recognize the pitfalls.				
24) I memorize the methods that do work (and the methods that don't) for problems with pitfalls.				
25) I memorize the different types of problems (and step-by-step methods) when the instructions are the same.				

Math uses precise notation, and sometimes understanding concepts (e.g. absolute values, functions, derivatives) means understanding the notation.

26) I write the correct notation in my class notes.				
27) I study notation so I know what it means.				
28) I write the correct notation when doing homework (whether turned in or not).				

Some instructions contain technical terms that require specific notation. (e.g. “ordered pair”, “function”)

29) When I read the instructions, I notice what type of answer I expect. (For example: a single number, an ordered pair, a rate of change, an expression, a function, an equation)				
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Sometimes an answer should be written in a very specific format to be considered completely correct.

Sometimes this format is included in the instructions (e.g. “write in slope-intercept form”) and sometimes it is assumed that you will always write your answer this way (e.g. fractions fully reduced).

30) I notice when instructions state a particular format.				
31) I study when a particular format is expected but not stated.				
32) I practice writing my final answers in the correct form when I am doing homework.				
33) I practice writing my final answers in the correct form when I am taking notes in class.				
34) I practice writing my final answers in the correct form when I am studying for an exam.				

The units in a problem explain what the problem concerns, can help organize your work, and affect what you should write with your final answer.

35) I know when units should include the word “square” or “cubic” and when they should include neither.				
36) When I read a word problem, I notice the units given, and notice which concepts have which units (e.g. distance is feet, speed is miles per hour, volume is cubic centimeters).				
37) I use units to determine what I’m seeking.				

Some students hope only to “pass” and “study only what’s necessary”. These students assume that they know *more* than the instructor does, because they think they know what they can skip!

38) When studying for an exam, I ask myself “Can I do <i>all</i> the problems?”				
39) If studying for an exam and I think “it’s too hard” or “it won’t be on the exam” (or some other excuse), I study it anyway.				

Task #4: Exam Stress Reduction

You can reduce your exam stress by taking control of your test preparation routine by being prepared mathematically, taking care of your body, and planning ahead.

Be prepared mathematically.

- ☺ Prepare yourself mathematically so you will have confidence in your ability to do the math. If you feel prepared and confident, you will believe that you can do well, and these positive thoughts will carry over to your actions on the exam.
- ☹ Lack of preparation causes students to be nervous, “blank out”, get discouraged, and feel overwhelmed.
- ☹ Blaming the teacher is a way to avoid responsibility. Adults do what it takes to get the help they need.

Look at the categories you checked as “sometimes”, “no but I should” and “no, I never thought of it” on the previous pages. List three strategies you’ll try for the next exam to be prepared mathematically:

40)

41)

42)

Take care of your body.

- ☺ Maintain your exercise routine. Exercise helps reduce stress and improves circulation to all of your body, including your brain.
- ☺ Get a good night's sleep regularly, but especially the night before the exam. Sleep will help you think and remember more clearly, work more efficiently, and express what you know. Your brain organizes information while you sleep, allowing you to solidify knowledge and expose areas in need of additional study, in addition to helping your body renew its resources and become refreshed.
- ☺ Eat nutritious meals to maintain good health. Your body and brain need to be strong to withstand stress.
- ☺ Drink sufficient water to keep hydrated.
- ☺ On the exam day, dress in a way that makes you feel confident and comfortable. Some students prefer to dress nicer for exams, while others go for comfort. Choose what works for you.

43) To take care of my body, I will:

Plan ahead.

Planning ahead happens throughout the semester – planning for studying and doing the studying, then planning for an exam and taking the exam.

“Cramming” is when a student postpones nearly all study for an exam until the last minute, then spends the night before the exam trying to “cram” all the information in, often staying up late or all night.

Cramming is different from a last-minute review because a crammer has studied little or not at all.

Cramming is an example of *not* planning ahead.

Though cramming may be better than studying little or not at all, it is not an effective exam strategy because:

- ☹ Students who cram usually take exams while sleep-deprived and are unable to do what they know.
 - ☹ Students who cram don't realize what they don't know until it may be too late to get help.
 - ☹ Brains strengthen our knowledge while we sleep, exposing gaps and confusions. Students who cram often wake with questions for which there is little or no time to find answers.
 - ☹ Cramming uses short-term memory, so most of what is studied is soon forgotten or distorted.
 - ☹ Being rushed can make crammers lower their standards and reduce the time spent on each topic.
 - ☹ Cramming often focuses on “short-cuts” rather than on full understanding, so students who cram are often confused by exam questions which aren't exactly like their homework.
 - ☹ Cramming is stressful, having a negative effect on physical and emotional health and impairing memory.
- ☺ Establish a habit of regular study daily and/or weekly.
 - ☺ Plan your transportation so that you arrive to the exam early and relaxed.
 - ☺ Gather and pack all your materials the night before.
 - Pencils and eraser, highlighter,
 - Calculator (not cell phone),
 - Watch (not cell phone)
 - Ruler, colored pencils, Scantron, Blue Book, or other materials required by your professor
 - Any assignments to turn in
 - Personal items: tissues, water, jacket or sweatshirt, snack or lunch

44) Have you crammed for an exam? If yes, which, if any, of the ☹ items happened to you?

45) To plan ahead both during the semester and before an exam, I will:

Task #5: Exam Taking Strategies

For each strategy, check Always, Sometimes, or Never to describe your current behavior. Blanks have been provided at the ends of the lists above for you to add *effective* strategies that you use or think are good ideas.

Before the Exam

Always	Sometimes	Never	
___	___	___	46) If something in the rest of my life is distressing me and may interfere with my performance on the exam, I write it on a card and put the card away until after the exam.
___	___	___	47) I arrive on time so that I feel calm and ready.
___	___	___	48) I use the restroom, since most professors do not allow exit and re-entry during an exam.
___	___	___	49) I set out the required materials so I feel prepared.
___	___	___	50) I ignore others before and during the exam so I won't pick up their negativity or anxiety. I am prepared and confident.
___	___	___	51) I check my inner voice. I turn any negative thoughts into neutral or positive statements: I am prepared, I've done what I can, I am ready to succeed, I can DO MATH!
___	___	___	52) I take a last, quick look at notes, study sheet, or study cards.
___	___	___	53) I eat a nutritious snack.
___	___	___	54)

While working the problems on the exam

Always	Sometimes	Never	
___	___	___	55) As soon as I get the exam, I write down formulas and facts I may need on the exam so I no longer have to think about remembering them.
___	___	___	56) I skim the exam to see where the easy problems are, and where the problems worth a lot of points are. I mark the page halfway through the exam.
___	___	___	57) I read the instructions for the problem before I do it, and circle, underline, or highlight key words or directions.
___	___	___	58) I do the easy problems first to build my confidence and earn points.
___	___	___	59) If I can't do a problem <i>immediately</i> , I write down anything I can think of (formulas, diagrams, key concepts) and move on. I don't waste time; I work on another question and let my subconscious mind ponder it.
___	___	___	60) I show all my work. I write all the steps, neatly, and explain my reasoning and supporting evidence so I'll earn partial credit for what I know.
___	___	___	61) I ignore others. I remember that those who turn exams in early may be turning in blank papers.
___	___	___	62) I pace myself.
___	___	___	63) If I do not know how to do something, I try to relate it to something I know that seems similar.
___	___	___	64) I check my work.
___	___	___	65) I check that my answers make sense, and that I have written them with the correct format (fraction, decimal, rounded or not) and units and have followed all the instructions.
___	___	___	66) I use all the available time, and go over my work carefully if I finish before the professor calls time.
___	___	___	67) I breathe and remain calm, even if I'm confused.
___	___	___	68)

Reducing stress during the exam

Always	Sometimes	Never	
___	___	___	69) I check my inner voice. I turn negative thoughts into neutral or positive statements.
___	___	___	70) I imagine and visualize that I am taking the exam in a pleasant, relaxing location.
___	___	___	71) I take deep breaths between questions, when I pause, and especially if I am worrying.
___	___	___	72) I occasionally pause to take a drink of water, stretch my neck, move my shoulders, or rearrange my legs or feet.
___	___	___	73) I imagine images of cute baby animals
___	___	___	74)

*Review the **Exam Taking Strategies** checklists*

Look at the "Sometimes" and "Never" categories. List three techniques you will try during the next exam.

75)

76)

77)

Task #6 Maximizing Points and Time during Exam

The goal of an exam is to use clear, legible, and organized written communication to demonstrate what you know. The workspace on the page is directly related to your mental “space” to think, so use it wisely. In the list that follows, check the ☹ if you typically do the “DON’T”, check the ☺ if you typically do the “DO”, or check the ☹ if you sometimes have done both or don’t know.

	☹	DON’T	☺	DO	☺
78		Don’t recopy the problem. This wastes time and workspace.		Write arrows or other notation on the question, for example, if the first step is to distribute.	
79		Don’t start in the middle of the workspace. If you run out of room, there’s no legible place to go.		Start your work in the upper left corner of the workspace. This allows two columns of work.	
80		Don’t write work right to left or around the space. This is confusing to you and difficult to grade.		Write each line of work beneath the previous line. This reduces copy errors.	
81		Don’t re-do the same work in part b) that you just did in part a). This wastes time and workspace.		In related questions, save time and duplication by writing a note referring to previous ones.	
82		Don’t pretend your answer makes sense (negative length, imaginary number, change the sign randomly) and hope to get credit anyway. This makes you look even more confused than just the error that got you a wrong answer.		If your answer doesn’t make sense, but you can’t find the error, write a note explaining that you know it’s wrong and <i>why</i> you know it’s wrong. This knowledge may earn additional partial credit.	
83		Don’t write one or two lines of work and quit because it seems wrong. If you quit, you can’t earn partial credit for the parts you didn’t try to do.		Always finish the problem, even if the numbers have become weird. A wrong answer with correct method will earn more credit than a right answer with a wrong method.	
84		Don’t write bigger so it will look like more work. Some problems don’t need much work, while others need a lot of work. Your instructor will not be impressed if your big writing doesn’t demonstrate the knowledge!		Write neatly, using handwriting the size you would use on binder paper. Exam workspace is usually planned according to the number of lines (on binder paper) needed to complete the problem. If you make a mistake, it takes less time to erase smaller writing.	
85		Don’t write an answer without work (for example, using <i>only</i> your calculator). Correct answers without work will receive little or no credit, because you haven’t demonstrated your knowledge and you may even have copied it from your neighbor. Your instructor can’t read your mind, only your paper.		If using your calculator is the best method, write the keystrokes you used, or (in graphing calculator classes) the name of calculator’s function that you used, including any functions.	
86		Don’t use your exam paper for scratch paper. This is sloppy, earns no credit, and makes it difficult to grade.		Use your calculator to do calculations. If you doubt the answer, write the calculation you intended to do.	

87	Don't randomly change the result so it looks "better", like rounding a decimal (unless instructions say), changing a sign, or ignoring an unexpected or difficult term. This makes you look confused, and you'll lose more points.	If your answer doesn't make sense, but you can't find the error, write a note explaining that you know it's wrong and <i>why</i> you know it's wrong. If your explanation demonstrates knowledge the question is testing, you may earn partial credit.
88	Don't leave the question blank. You will earn zero points.	Demonstrate what you know by writing the steps you would do if: <ul style="list-style-type: none"> • your numbers made sense, • you had numbers at all, or • you had time to complete the problem.
89	Don't omit the formula. If any aspect of your work is incorrect (including copy errors), you will lose all or most of the credit.	Include the pertinent formula(s), especially if you did not complete the problem or think it's wrong.
90	Don't scribble out errors. This is sloppy and wastes workspace.	If needed, write your second attempt under your first attempt (or in the right column), then erase the first attempt. If there's no time to erase, use a big, neat X to mark out one attempt.
91	Don't use a flat pencil point. This makes your writing larger than necessary and uses up your workspace too quickly.	Use a mechanical pencil (.05 or .07mm) or bring several sharpened pencils and a good sharpener. (Classroom sharpeners are often bad.)
92	Don't use calculator without checking mentally or calculate mentally without checking on calculator.	If allowed a graphing calculator, check your work by using a GC method in addition to algebra: a table, a graph, $\frac{a}{b}$, etc.

Review the **Maximizing Points and Time during Exam checklist**

List three "DO" items you can try when taking the next exam.

93)

94)

95)

In Summary:

If you haven't studied, just having a positive attitude is delusional.

Create your own reality—don't just hope for miracles.

96) Not every idea works for every person. Which strategies or ideas in this packet seemed most helpful?

97) What thoughts or feelings do you have now or did you have while working on this packet?