**Metacognition after Exam #2**

Name_____

Course & Section _____

Improved success in math involves become better at thinking, but to do this students must think about how they think! The skill of thinking about how one thinks is called "**Metacognition**". The skill of metacognition has been correlated to success not only in educational settings, but also in work and career, personal life and relationships, and life satisfaction. Metacognition involves making an intentional effort to:

1. Identify goals and ideal outcomes.
2. Observe current thoughts and behaviors.
3. Identify which thoughts and behaviors are effective and desirable and which are not (or less so).
4. Celebrate and reinforce productive thoughts and behaviors.
5. MOST IMPORTANTLY: Create strategies to change thoughts and behaviors to achieve more success.

When considering ideas and strategies, you may want to review

- other Study Skills assignments,
- Mindset cartoons in the "Study Skills" folder of the class website,
- "Advice" folder of the class website,
- "Learning How To Learn" class on Coursera.org (which can be viewed without paying).

**Part 1: Current Grade (3 points)**

My grade on this exam is _____ points out of _____ points, which is _____% and letter _____.

I am satisfied with my grade on this exam: Yes _____ No _____

My grade in this class right now (including this exam and all returned PQs, past-due HW, etc.) is _____ points out of _____ points, which is _____% and letter _____.

I am satisfied with my grade in the class Yes _____ No _____

**Part 2: Exam Corrections (10 points)**

1. Rework all problems on the exam that you did not get completely correct. Use separate sheets of paper.
2. Show these to a tutor and have them check your work.
3. Have the tutor sign below.
4. Staple in order: this assignment, your essay for part 4, your exam corrections, your exam.

Tutor Signature:

I have checked the exam and the exam corrections and confirm that the student has re-worked every incorrect problem (nothing skipped) and has now found the correct answers.

Tutor signature _____

Tutor name (printed) _____

Tutor location _____

Date _____

**Part 3: Exam Error Analysis (7 points)**

You can learn a lot by examining your graded test. Did you do as well as you thought you could? You may think, "the exam was too hard" or "the professor didn't give us enough time", but, chances are, your instructor has been giving a similar exam under similar conditions to many students before you. So let's see what **you** can do to earn a higher score on your next exam.

Analyze each point you lost on the test. For each point, decide if you were **unprepared** for that problem, you made a **concept error**, or you made an **avoidable error**. Summarize this analysis by answering the questions in the box below.

Types of Errors

- Being **unprepared** means you didn't do the homework, skipped class, didn't study for the exam, or didn't study sufficiently or effectively for the exam. These often are marked as "NA" (not attempted) or "NP" (no progress) or "confused" and are marked -4 or more. To reduce points missed due to being unprepared, you can:
    - Re-examine your weekly schedule to find more time to dedicate to studying and doing homework for this class. A weekly time management grid can help.
    - Recommit yourself to succeeding in this class. Think about your college and career goals and remember that completing this class gets you one step closer to achieving them.
    - Add to or modify your study strategies.
- A **concept error** is one where you didn't understand an important part of the problem. Examples include misunderstanding the instructions, doing work for a different type of problem, doing something mathematically illegal, or stopping in the middle. Concept errors are typically -3 points or more. To reduce points missed due to concept errors, you can:
    - Notice if, while you do the homework, you understand, but forget soon after. If so, study previous sections every day using the study plan, flash cards, learning maps, or summary sheets.
    - Do half of homework (all odds or evens) during first sitting, using help as needed. Then test your memory and speed by doing the other half quickly and without assistance.
    - Do a "brain dump" when you get the exam: write down formulas or key concepts you may forget on the margins or back of your exam.
    - Get help with small confusions before more concepts are connected to those concepts. Go to the Math Center, the instructor's office hours, a tutor, or a study group.
- An **avoidable error** is where you understood the problem and knew how to solve it, but made a mistake that could have been avoided. Examples include copying incorrectly, sloppy handwriting, arithmetic, calculator, and some types of sign errors. These are -1 or -2. To reduce points missed due to avoidable errors, you can:
    - Manage time and build confidence during the exam by doing the easiest problems first, or by alternating hard and easy problems.
    - Work carefully and neatly. Erase thoroughly.
    - Start on the left side of the space provided, and work down, leaving the right side blank in case you need more space.
    - Breathe and use stress- and anxiety-management skills while taking the test.

- Identify particular handwriting issues (t and +, 7 and 1, z and 2, 4 and 9, 5 and s, 6, 0 and 9) and practice clearly writing each when doing homework.
- If you have been diagnosed with a learning disability but are not using testing accommodations, arrange to use accommodations.
- If you suspect you have a learning disability, talk to the professor or go to DSS to get information about being tested.

**Part 3: Exam Error Analysis (9 points)**

I am using the *red* grade and markings on my exam to analyze my errors.

My (red) grade on this exam is _____ points out of _____ points.
The number of problems on this exam is _____.
The number of problems I got completely correct (marked with a check) is _____.
The number of problems I did <u>not</u> get completely correct is _____.

| | Unprepared errors | Concept errors | Avoidable errors |
|---|---|---|---|
| Number of *<u>problems</u>* I missed due to this type of error | _____ | _____ | _____ |
| Number of *<u>points</u>* I lost due to this type of error | _____ | _____ | _____ |

I lost the most points for (check one): Unprepared ____ Concept ____ Avoidable ____

**Part 4: Essay (8 points)**

The prompts below are starting points which often relate to student experiences, but may not apply to you. Your essay should describe reality, (not just what you hope), and provide concrete steps in a plan to make your reality closer to your ideal. It will be graded on the following:

☺ Initiative: Thinking beyond the prompts by examining your behavior, life circumstances, decisions, etc.
☺ Depth: Explaining the situation fully.
☺ Specific plans: What you plan to do (same or differently) to work toward success in this class.
☺ Pertinence or relevance: Clearly related to your behaviors and success in this class.

Eight Ideas to get you started ("prompts"):

1. What grade would I like to achieve in this class? Why?
2. Using my current approach, do I seem to be "on track" to achieve that goal? Why?
3. What are my current behaviors regarding attendance, taking notes, using my notes, doing homework, preparing for exams, the amount of time I've dedicated to this class, time management, organization, etc.? Why?
4. On this exam specifically, were my errors major, minor, or a combination?

5. Is my mindset generally a growth mindset or generally a fixed mindset? (See Study Skills "Autobiography & Mindset" or class website Mindset Cartoons for more info.) Why?
6. What's working and/or not working in my current approach? Why?
7. What changes might I make, or not, and why?
8. Are there questions about my approach that I might want to ask? Why?