MPM 2D Final Summative Assessment

Date: June 2020 (Schedule of suggested due dates included as Appendix 2)

This assignment will be worth 15% of your final grade in this course if you choose to complete it. It will cover everything that we have done, with **a focus on quadratic relationships**. Remember, the things that I am emphasizing this year are critical for next year, so please make every effort to improve your understanding while you complete this assessment. **Reflect** on previous assessments and **understand** your errors! Don't try to memorize!

Description of the Assignment:

You will be responsible for:

1) Creating a cheat sheet (provided) using the exam outline (provided). (2.5%)
2) Creating an exam (again, using the outline provided). (4%)
3) Completing an answer key for TWO sections of your exam (one must be quadratics, then you can choose to answer your questions for Chapters 1 & 2 or for Trigonometry). (6%)
4) Answering the attached reflection questions. (2.5%)

My suggestions and hints for you are included below the exam outline. Rubrics are also included (Appendix 4).

MPM 2D Final Exam Information (to be used to guide your exam creation)

Strand	**Questions to Expect**
Analytic Geometry (AG1, AG2, AG3) ~30 marks 30% of your mark in the course comes from this strand	• Solve a linear system of equations using a **method of your choice**. (AG1, Chapter 1)) • Choose or write appropriate 'let' statements for a word problem and justify your choice or explain why you wrote what you did. (AG1, Chapter 1) • Word problem that requires you to create a linear system of equations. (AG1, Chapter 1) • Two short answer questions that relate to analytic geometry (triangle centers, area of a triangle, properties of shapes, etc.). (Chapter 2, AG3) • Calculate the length of a line segment. (Chapter 2, AG2) • Find the equation of a perpendicular bisector and a median given the vertices of a triangle OR find distance from a point to a line. (Chapter 2, AG2)
Quadratic Relationships (QR1, QR2, QR3, QR4) ~50 marks 49% of your mark comes from this strand	• Factor (3 – 5 expressions). (Chapter 4, QR3) • Find the roots using the quadratic formula (1 question). (Chapter 6, QR3) • Short answer question relating the forms of a quadratic equation. (Chapters 3 to 6, QR4) • Find equations in the most appropriate form (factored, vertex) using the information given. (Chapters 3 and 5, QR3) • Graph using transformations and identify key characteristics of your graph. (Chapters 3 and 5, QR2, QR1) • One word problem with the equation given. (Chapters 3 to 6, QR4) • Two word problems that require you to make the equation. (Chapters 5 & 6, QR4)
Trigonometry (T1, T2, T3) ~20 marks 21% of your mark comes from this strand	• Solve for x in each of the triangles given. (Chapters 7 & 8, T2) • Short answer question about sine/cosine laws. (Chapter 8, T3) • One SOH CAH TOA word problem. (Chapter 7, T2) • Two word problems from chapter 8 (sine/cosine laws). (T3) • Chapter 8 word problem with two triangles (both laws, or one law and SOH CAH TOA. (T3)

How do I do this???

To prepare to create your exam, you should:

- Review previous tests and quizzes. Make sure that you can **do** the questions that you choose, don't just read them over and decide that they make sense.
- Review your notes and try examples on your own. Trying to improve your understanding by watching other people do math is sort of like trying to become a better soccer player by watching other people play. You won't improve unless you practice it yourself! You may want to redo some of the homework assigned this year to remember concepts that have been forgotten.
- Create your cheat sheet (guidelines included below).

Part 1: Create a Cheat Sheet (2.5% of the total mark)

Cheat Sheet rules:

- You have been given a specific sized box to fill (Appendix 3). If you are creating your own (not printing) the dimensions are 7.5 cm by 7.5 cm. You must complete this BY HAND, and hand it in with your exam and answer key.
- All writing on your sheet must be IN YOUR OWN HAND WRITING!
- You can fill both boxes (one side) with whatever you would like, as long as you write yourself. This might be a good spot for some examples directly from notes with full solutions.

Part 2: Create an Exam (4% of the total mark)

Once you remember some stuff, to prepare your exam you should:

- Use the exam outline to identify textbook questions that may be relevant to include. You cannot use exact examples from the notes/tests/quizzes, as you also have full worked solutions for those. You are welcome to look for questions elsewhere, but you do not need to.
- There are cumulative reviews in your textbook at the end of chapter 3 (p. 189), chapter 6 (p. 365), and chapter 8 (p. 456). They are multiple choice. These might be good spots to look to get questions. I am not suggesting making a multiple choice exam, but if you provide full solutions you will know if you are on the right track because of the multiple choice options.
- Once you have selected questions, type or write them neatly, leaving space for solutions. If you have Microsoft Word, you can put in equations by clicking "Insert" and then "Equation". From there you can select fractions, scripts, etc. Again, you can also handwrite neatly.
- Use your old tests and quizzes as well as the course Learning Goals to insert a marking scheme (Learning Goal, # of marks).
- When your exam is done, save it (if you typed) or scan it to PDF (if you wrote).

Part 3: Create an Answer Key (6% of the total mark)

To complete your answer key:

- Print your exam if you can. If you have handwritten it, be sure to scan the blank copy BEFORE you start solving your problems!
- Choose your second section (Analytic Geometry or Trigonometry).
- Write your solutions to your questions on your exam (if you typed but can't print, just write your solutions on lined paper). **Use your resources! You can use your cheat sheet, and you can also use your notes, etc.**
- Regardless of your approach, answers should be neat and organized. Remember that each line should have one equals sign, you should work vertically, and word problems need "let" statements to define variables if you create equations. All word problems need concluding (therefore) statements.

Part 4: Reflection Questions (2.5% of the total mark)

Complete the attached reflection questions (Appendix 1). One to three sentences is sufficient for each. Be honest and reflect on your experience with this assignment.

Appendix 1: Reflection Questions

1) What was the most challenging part of this assignment for you? Be specific about what the challenge was and how you overcame it.

2) What did you enjoy most about this assignment? Provide a brief explanation for your choice.

3) Why do you think that you had to provide solutions for the Quadratic Relations Unit of your exam?

4) Do you feel that this assignment has helped you to review the material that we learned this year? Give two specific reasons for your answer.

5) Do you feel that you are prepared for the course that you are taking next year? Provide a reason for your answer.

Appendix 2: Recommended Timeline

Week	Task	Items submitted for feedback
June 1st to 5th	Create your cheat sheet for all material learned thus far.	Cheat sheet with a small amount of space left for the last part of trigonometry
June 8th to 12th	Create your exam (again, you can use text book questions)	Exam and completed/revised cheat sheet
June 15th to 19th	Create your answer key	Completed/revised exam and cheat sheet and answer key
June 21st and 22nd	Reflection questions and corrections/revisions from feedback	**ALL PARTS DUE BY JUNE 23rd**. Until this date you can revise and correct based on my feedback. After noon on June 23rd, all work submitted will be considered your final product.

Appendix 3: Cheat Sheet Template (*You may fill the shaded squares)*

Front

Back

Appendix 4: Scoring Rubric

Task/Look fors	Level 1	Level 2	Level 3	Level 4
Part 1: Cheat Sheet • Completion (0.5%) • Content (1%) • Comprehensiveness (1%)	Space is primarily blank.	Space is partially filled, or filled inefficiently.	Most space is filled efficiently.	Space is filled efficiently.
	Includes information from one strand only.	Includes information from two strands only.	Includes information from all three strands.	Includes organized information from all strands.
	Content included is loosely connected to the exam outline.	Content included is connected to the exam outline.	Content included is relevant and connected to the exam outline.	Critical thinking in evident in the selection of content. Connections to the exam outline are evident.
Part 2: Blank Exam • Quality/ Comprehensiveness (3%) • Organization (1%)	Questions are primarily knowledge based/entry level. Focus on one area of each strand. (ex/ all factoring questions are differences of squares), demonstrating a limited understanding of broader course concepts.	Questions involve knowledge and communication. Focus on more than one area in one strand, but a single area in the others to demonstrate a limited understanding in these areas.	Questions include knowledge, communication and application. Fair coverage of all key concepts in all strands to demonstrate understanding of each strand.	Questions types are varied to include critical thinking in one problem (multi-step word problem, challenging explanation question, etc.) Thoughtful selection of problems to demonstrate thorough understanding of each strand.
	Very little planning or organization is evident. Marking scheme is vague (ex/ 2 marks per question regardless of type)	Some planning and organization is evident. Marking scheme is clear.	Planning and organization is evident. Marking scheme is clear and logical.	Exemplary planning and organization (I would hand it out to a class). Marking scheme is clear, logical and organized.
Part 3: Answer Key • Accuracy (5%) • Form (1%)	50 to 59% of the questions are solved correctly.	60 to 69% of the questions are solved correctly.	70 to 79% of the questions are solved correctly.	More than 80% of questions are solved correctly.
	Solutions are unorganized but follow most mathematical conventions.	Solutions are somewhat organized, and follow some mathematical conventions.	Solutions are neat, organized, and follow most mathematical conventions.	Solutions are neat, organized, and follow all mathematical conventions.
Part 4: Reflection Questions • Clarity (1.5%) • Critical Thinking (1%)	Responses are partially complete.	Responses are vague but complete.	Responses are complete.	Responses are complete, concise, and focused.
	Responses do not indicate self-reflection or critical thinking.	Responses indicate low levels of self-reflection and critical thinking.	Responses indicate some self-reflection and critical thinking.	Responses indicate high levels of self-reflection and critical thinking.

***Work that is BELOW Level 1 will be returned and the student will be asked to correct it and resubmit. Please remember that the intention of this optional assignment is to provide evidence of learning to IMPROVE your grade.**