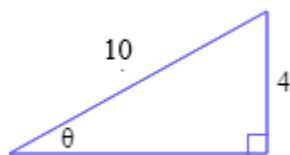


MAT 140 Milestone One Guidelines and Rubric

Overview: For the final project, you will illustrate your process for solving selected precalculus problems. In this way, you will defend the validity of your solutions and demonstrate your ability to effectively communicate using precalculus notations, conventions, and terminology. In this milestone, you will submit your first practice problem walkthrough. You will solve a similar trigonometric functions problem as the one that you will ultimately need to address in your final project. This is an important opportunity to practice “walking through” a problem solution in order to gain feedback prior to submitting your final project.

Problem Statement: Given the following right triangle, find $\cos\theta$, $\sin\theta$, $\tan\theta$, $\sec\theta$, $\csc\theta$, and $\cot\theta$. Do not approximate: Find exact answers. Show all of your work and explain steps as necessary.



Prompt: Use [the provided template](#) to solve the trigonometric functions problem above, and illustrate your process by addressing each of the following elements:

- I. Establish a context for the problem by explaining in your own words the course principles that apply: What are the relationships between theta and the lengths of the sides of the triangle? Be sure to correctly use the appropriate **terminology** in your explanation.
- II. Apply the **mathematical process** to solve the problem:
 - A. Use the Pythagorean theorem to find the third side of the triangle.
 - B. Write out the six trigonometric functions related to theta in exact form.
- III. Clearly state the answer using appropriate **precalculus notations**.

Rubric

Guidelines for Submission: Your milestone submission should be about 2 pages in length, including a cover page, and must be written in APA format: Use 12-point Times New Roman font and one-inch margins.

Critical Elements	Proficient (100%)	Needs Improvement (70%)	Not Evident (0%)	Value
Terminology	Establishes a context for the problem by accurately explaining the course principles that apply using appropriate terminology	Establishes a context for the problem but fails to fully or accurately explain the course principles that apply using appropriate terminology	Does not establish a context for the problem	30
Mathematical Process	Correctly applies the mathematical process to solve the problem	Applies the mathematical process to solve the problem, but there are gaps in logic or accuracy	Does not apply the mathematical process to solve the problem	30
Precalculus Notations	Clearly states the answer to the problem using appropriate precalculus notations	States the answer to the problem, but fails to clearly or appropriately use precalculus notations	Does not state the answer to the problem	30
Articulation of Response	Submission is free of errors related to citations, grammar, spelling, syntax, and organization and is presented in a professional and easy-to-read format	Submission has no major errors related to citations, grammar, spelling, syntax, or organization	Submission has major errors related to citations, grammar, spelling, syntax, or organization that negatively impact readability and articulation of main ideas	10
Total				100%