

Scoring Guide for “[Snowmagedon](#)”
A practice problem for February’s Monthly Dialogue
Moody’s Mega Math Challenge 2016

- Separate summary page with team # and no identifying information
- A summary that states the problem to be solved and summarizes the methodology and key results
- A paper with distinct sections and concise and clear assumptions, description of model parameters and variables, solution process, summary and conclusions (does your answer make SENSE and why?)
- Appropriate mathematical equations written on their own line



Ex: $\text{sqrt}(x^2+y^2)$ is BAD



Ex: $\sqrt{x^2 + y^2}$ is GOOD

- Derivations and COMPUTATIONS clear, logical, and *easy to follow*?
- A clear description of the variables and diagrams/tables properly labeled with correct units
- Give acknowledgment where it is due. References stated.
- Answered ALL questions being asked, including discussion questions?
- Discussion of the strengths and weaknesses of your approach.
- Spelling, grammar, and punctuation correct? Is the mathematics correct?
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Specific to the “Snowmagedon” topic:

- Estimates for the probability of snowfall in each of the three cities are provided and justified.
- Estimates for the cost of maintaining snow removal equipment are provided and justified.
- Estimates for the cost of contracting snow removal for a single snow event are provided and justified.



For each city, the above three estimates are used to generate seasonal cost estimates and recommendations.

How to use the M3 Scoring Guide:

Most M3 Challenge problems ask teams to solve three questions of varying difficulty and depth. Winning solutions address all questions and develop math models to solve, as needed.

Scoring Guide

Solution Component	Score	Considerations/comments
Executive Summary The summary is a concise, explanation of the main results and answer the questions posed, written with minimal use of technical language.		Defines the question
		Briefly describes methodology
		Shares key result(s)
		Other:
		Executive Summary total (2.5 points)
Question 1 An accessible entry point to the larger problem.		Builds a model (justifies assumptions and defines variables)
		Provides solution(s)
		Analyzes result(s)
		Question 1 total (2.5 points)
Question 2 Investigation of essential aspects of the question.		Builds a model (justifies assumptions and defines variables)
		Provides solution(s)
		Analyzes result(s)
		Other:
		Question 2 total (3 points)
Question 3 A challenging aspect. Typically requires broader and/or deeper perspective.		Builds a model (justifies assumptions and defines variables)
		Provides solution(s)
		Analyzes result(s)
		Other:
		Question 3 total (3 points)
Discretionary points Award these points for papers with outstanding features (e.g. creative problem solving perspective, very well organized, detailed sensitivity analysis, model verification, ...)		
		Discretionary points (3 points)

