

## Physics Problem Solving Rubric

Criteria & Rating	5	4	3	2	1
<b>Strategic Approach (S)</b>	Approach chosen is clearly shown, clearly written & all elements are valid.	Valid approach with minor errors that don't disrupt understanding.	Valid approach with multiple errors that impede understanding.	Invalid approach that demonstrates little understanding of the problem.	Little or no understanding of how to approach the problem.
<b>Physics Concepts (P)</b>	Appropriate concepts that are fully understood (symmetries, conserved quantities, etc.), clearly stated & employed correctly.	Appropriate concepts that are mostly understood but employed with errors.	Appropriate concepts identified, but not employed or understood.	At least one concept identified but unable to demonstrate understanding.	Little or no understanding of physics concepts.
<b>Mathematical Concepts (M)</b>	Correct starting equations; All mathematical steps are clearly shown and they flow easily toward the correct answer.	Correct starting equations. All mathematical steps are clearly shown but minor errors yield wrong answer. <b>OR</b> Correct starting equations with correct final result but the mathematical steps are hard to follow.	Correct starting equations. The mathematical steps are hard to follow and errors begin to impede application.	Can identify at least one equation, but unable to apply them.	Incorrect equations; demonstrates little or no understanding of mathematical concepts involved.
<b>Answer (A)</b>	100% correct answer – analytically (IA) numerically (IA) & conceptually (IA).	Correct answer analytically (IA), but not numerically (IA).	Incorrect answer, but on the right path.	Unable to reach a correct answer on this path.	No answer.

**IA= If applicable; Score of Zero = Incomplete Assignment (NSW – No shown work) or (MS - Missing assignment).**