

P40B Video Rubric

Week 2 Version; suggestions welcome!

Video grade: (statement of problem) + $2 \times$ (solution quality) + (figure) + (context)

Statement of Problem

Does the explainer tell you what they're about to explain? You should be able to watch the video without having to refer to the problem in the textbook. You should feel like there is a clear strategy that you can write out and follow.

Grade rubric:

- 5/5: States problem and objectives clearly, Identifies strategy to solve the problem.
- 4/5: States problem and objectives, but some ambiguity about goals or strategy.
- 3/5: States problem, but strategy is not identified. (Just starts solving.)
- 2/5: Identifies problem ("problem #2 in the book"), but does not explain what is being asked.
- 1/5: Does not identify problem.

Solution Quality

Does the solution convey the key physics required? This is the part of the rubric that grades "correctness" in the conventional sense. We are primarily interested in the *method*, not the numbers.

Grade rubric:

- 5/5: Understands and uses correct physical principles and appropriate mathematics to solve problem. Explains why each step is taken. Numbers are correct (perhaps up to rounding errors).
- 4/5: Understands and uses correct physical principles and appropriate mathematics to solve problem, but it may not be clear why those are the correct steps or may make minor mistakes. (Crunching numbers is a minor mistake if the equations are correct.)
- 3/5: Basic understanding of physical principles, but may misuse equations or apply incorrect strategy.
- 2/5: Incorrect application of physical principles or mathematical tools.
- 1/5: No meaningful application of physical principles or mathematical tools.

Figure(s)

Solutions should include at least one figure: a sketch, plot, cartoon, or other visual description of the physical process.

Grade rubric:

- 5/5: The figure helps motivate the question, clarify the strategy, and define variables.
- 4/5: The figure is helpful, but may be missing key pieces of information.
- 3/5: The figure is appropriate to the problem, but does not contribute to the explanation.
- 2/5: The figure is not the relevant one for the problem, there is a better one to draw.
- 1/5: No figure, but there should have been one.

Context

Solving the problem is just part of understanding the material. Does the video explain *why* this problem is relevant to the week's material? What principles from the reading does it reinforce? What is the significance? Does it identify any follow up questions? Does it identify potential mistakes?

Grade Rubric

- 5/5: Identifies the learning goals the problem reinforces. Points out the "tricky parts" of the problem to make sure listeners avoid possible mistakes. Relates to ideas both in and beyond the reading, identifies follow up questions, or otherwise provides "flavor" beyond the problem itself.
- 4/5: Identifies the learning goals the problem reinforces. Points out the "tricky parts" of the problem to make sure listeners avoid possible mistakes.
- 3/5: Identifies the learning goals the problem reinforces. May point out "tricky parts" of the problem, but with some errors.
- 2/5: Partial identification of the learning goals the problem reinforces; perhaps with errors.
- 1/5: Does not provide any context ("just solves the problem").

Went Over Time (check box)

Please mark this if the presentation went **significantly** *over* time.

Special Recognition (check box)

Please mark this if you'd like to nominate the presentation for special recognition as an excellent example. (Suggestion: at most, nominate only about one video per week.)

Controversial (check box)

Please mark this if you're unsure about the solution and would like a more careful look at the video. Part of how we test your understanding of the material is being able to make clear assessments about your peers; so please only mark this if you feel that there are extenuating reasons why the video is challenging to evaluate.

Constructive Feedback and Comments

Please provide some brief *constructive, friendly* feedback for the author of the video. As you are now aware, these videos are challenging to make: the feedback should be helpful and actionable. Point out errors and topics that may benefit from review, offer ways to improve. Always start and end with positive observations.

We ask that you send a copy of the entire form or at least this written feedback to the person you are reviewing.