

Last Name, First Name \_\_\_\_\_ student id \_\_\_\_\_ score \_\_\_\_\_

Signature \_\_\_\_\_

Return of Exam (check one) : \_\_\_\_\_ in Class or \_\_\_\_\_ from Susan Miller, Program Coordinator  
(with ID) PAC C136

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**READ THIS ENTIRE PAGE NOW, BEFORE THE HALF-HOUR BELL.**

**Do not open the exam before the bell.**

**You will have 50 minutes after the bell to complete the examination.**

**Exam papers will no longer be accepted after 55 minutes have elapsed.**

**Cell Phones are not allowed during the Exam**

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Before the exam begins:

- Print and sign your name, and write your student ID number in the spaces on this page (above).
- Write your name and student ID number on your bubble sheet, and fill in the corresponding “bubbles” using **dark** pencil marks.

**During the exam:**

- **Important!** When the exam begins, print your name and student ID number at the top of each and **every** page. Do this **first** when you are told to open your exam.
- If you are confused about a question, raise your hand and ask for an explanation.
- If you cannot do one part of a problem, move on to the next part.
- This is a closed book examination. You can only use the formula sheet provided.
- You may use a calculator, but not a computer or other programmable device.
- Please turn off your cell phone.

**For multiple-choice problems (those on white paper):**

- Fill in bubble sheets carefully and **darkly**. Make no stray marks. If you must erase, erase completely.
- Also circle your choices directly on the exam paper for later reference.

**For hand graded problems (those on colored paper):**

- If you need more space than is available to answer any part of a problem, use the **back side of the same page** to complete your answer. Clearly indicate to the grader that you used the back side. Do not use scratch paper; it will be ignored.
- Show your work in enough detail so that the grader can follow your reasoning and your method of solution. Circle your answers, and state units if appropriate. For numerical answers 2 significant figures (*e.g.*, 1.2s,  $6.1 \times 10^2$  m) will be sufficient unless otherwise stated in the problem.