

NAME (FIRST LAST): \_\_\_\_\_ SID: \_\_\_\_\_

TIME AND CONDITIONS: 70 minutes; closed book/notes/internet; no calculator/computer

### QUESTIONS AND ANSWERS

- There are 6 questions.
- **Give brief explanations or show calculations** in each part of each question.
- You may answer any part of any question. If the answer to one part depends on another that you couldn't do, you can still provide an answer such as "The answer to part (a), divided by 2."
- Unless the question asks for a decimal answer, please leave numerical answers unsimplified. You can leave them in any form that can be typed (perhaps laboriously) into a calculator to get the decimal answer.
- **Please simplify all infinite sums.** It's fine to leave finite sums unsimplified, whether they are numerical or algebraic.

### GRADING

- The exam is worth 50 points.
- You get 1 point for turning in a test with your name and SID on it, and 1 more point if you write each of your answers within the space provided. See **FORMAT** below.
- Each of the 6 questions is worth 8 points. Points for parts are indicated in the questions.
- We will give partial credit, but only for substantial progress towards a correct answer. We get to decide what "substantial progress" means.
- Please commit yourself to a single answer for each part of each question. If you give multiple answers (such as both True and False), please don't expect credit, even if the right answer is among those that you gave.

### FORMAT

- There is space for your answer below each question. **Please do not write outside the black boundary;** the scanner and Gradescope won't read it. Please do not write the answer for one part in the space provided for another.
- If you need scratch paper please use the backs of the pages of the exam. But be aware that they will not be graded.

### HONOR CODE

Data Science and the entire academic enterprise are based on one quality – integrity. We are all part of a community that doesn't fabricate evidence, doesn't fudge data, doesn't steal other people's work, doesn't lie and cheat. You trust that we will treat you fairly and with respect. We trust that you will treat us and your fellow students fairly and with respect. **Please abide by UC Berkeley's Honor Code:**

**"As a member of the UC Berkeley community, I act with honesty, integrity, and respect for others."**

Your signature: \_\_\_\_\_