

Compare this list to your notes, in-class materials, reading, online links, Bonus Study Prompts, Weekly Assessments, Required Practice, and extra problems. Refer to the study skills handout from earlier this semester. Using problem flashcards, studying together, and seeing me or the MAC tutors can help.

For exams in math, science, psychology, etc., starting to study well in advance and putting in good time can help you tame test anxiety by feeling well-prepared to recall what you understand.

Probability: Understand, clearly define “experiment,” “outcome,” “sample space,” “event.”

1. Name the kinds of probability; describe each; identify which one a given problem is using.
 - (a) It’s now possible that an experiment could use more than one kind, such as geometric (for a spinner) AND theoretical (thinking about the spinner ideally).
 - (b) If I give you a table of observations, you should consider that strictly experimental.
2. Given a list of words/phrases, tell the intuitive probability of simple events for an experiment.
 - (a) If asked, explain your choice; you may refer to counts, but do NOT create fractions.
3. Given a desired intuitive probability, create/change a sample space to fit; explain if not possible.
4. Understand, use the logic of “and,” “or,” at least/most, etc. in probability.
5. Convert between probability that an event happens/doesn’t (complementary).
6. Use basic area formulas (square, rectangle), fractions of circles to find geometric probabilities.
7. Create spinners so that given lists of probabilities will occur, as in Activity, practice, and RP.
 - (a) Beware clues with probabilities of 1: if any outcome in an event occurs, the event itself occurs, but it’s NOT true the other way around (an event can occur even though some of its outcomes did not).
8. Explain what a trial is in experimental probability, what a simulation is and why we do it.
9. Use tables of observations to find experimental probabilities. Beware: ALWAYS use entire SS!
10. Recognize whether a given set of outcomes is a sample space for a stated experiment.
11. List all favorable outcomes that belong to a given event.
12. Tell what “uniform SS” means; recognize/create SSs that are/are not uniform (see Bonus Study Prompt).
13. Identify single- versus multi-stage experiments. Give your own examples when asked.
14. Explain how children need to think in order to create uniform SS’s for multi-stage experiments.
15. Create a uniform SS for a single/multi-stage experiment. Legend your outcomes if asked.
16. Find theoretical probabilities, including with and/or, at least/most, etc.
17. Given a uniform sample space without experiment (see WA, practice), find probabilities about it.
18. State Law of Large Numbers (LLN). Use it in explaining whether an observed SS is uniform or not.
19. Apply LLN to predict how many times an outcome *should* occur in a large number of trials. (See RP.)

Counting: Know/describe how this form of counting is different from Grades K-1 counting.

1. Draw, label tree diagrams to solve counting problems. (See practice and SP.)
2. State the Fundamental Counting Principle (FCP); name the 3rd grade scenario it is related to.
3. Use the FCP (blanks) to determine how many ways or options there are to complete a multi-step task or to create a multi-step object.
 - (a) I may ask for answers to be UNSIMPLIFIED versus simplified, so read carefully.
4. Prepare for FCP settings in which repetition is allowed versus not. Ask if you’re unsure.
5. Also prepare to decide about repetition on your own from context:
6. Prepare for questions where an early choice limits later options: no repeats, same letter every time, etc.

Measurement: State the four steps in the general process of measurement, in order.

1. List several attributes that are common to measure; know that anything measured in a straight line (height, distance, length, width, etc.) just counts as “linear measure.”

2. Identify standard vs non-standard units in a list; tell which attribute they measure. (See Bonus SP.)
3. Explain what a personal reference is in the context of measurement.
4. Name the two systems of measurement commonly used in the world.
5. Memorize (from Summary) and use reference units to:
 - (a) Identify the best measurement (number) or type of unit from a list
 - (b) Choose the largest/smallest of two or more measurements
 - (c) List a given set of measurements in order of size
 - (d) Position a decimal point in a number to give a reasonable measurement
6. Memorize: English/metric reference comparisons (Summary #G-1).
7. Memorize: English system conversions (notes/handout), as in "how many (blank) are in 1 (thing)."
8. Name, in order of size, units of metric measurement for linear measure, volume, or weight.
 - (a) Spell (especially, the *deci-* versus *deka-* distinction MUST be clear); also know abbreviations.
9. Interpret metric prefixes in a sentence telling how many/what fraction of the base unit they represent.

You will have the entire class period to take the exam. When you finish, you may hand it in and leave.

You will need a basic calculator (not cell phone, no alphabet), but no other aids are permitted.

Students with documented accommodations should speak with me and process ODS requests ASAP.
ODS should proctor your accommodations since our classroom and my schedule are not automatically free.