

Math 145 Test 1 Chapters 1 and 2 Study Sheet

In Class Portion

Your first test will consist of questions (4) from homework or from classroom lecture or activities, and questions from the following list (2). You may bring one 3x5 card to the test with notes. You should pre-prepare answers so that the ideas are in your head.

- Eighty thousand people attended The University of Texas versus Texas A&M football game. The fans of both teams were so happy, they decided to organize a party each day for a year. They decided that on each day, anyone with their birthday on that day would return to the stadium at noon to celebrate. Why would at least one party have more than 200 people? Be sure to name and discuss the mathematical concepts behind your solution.
- Each box of animal crackers contains two servings; each serving consists of exactly 12 crackers. There are exactly 18 different shapes of crackers. Are there always two crackers of the same shape in each box? Explain why or why not. Be sure to discuss the mathematical concepts behind your solution.
- You have two measuring cups: one holds exactly 5 ounces of water and the other holds exactly 3 ounces of water. There are no markings on the cups, and you are not able to mark the cups in any way (holding your finger in a fixed spot is not allowed.) You are given a huge bucket of water. Is it possible to measure and place exactly 4 ounces of water into the big cup? If so, carefully explain your method; if not, carefully explain why not. If you found a solution, is it the only possible solution.
- Explain the winning strategy for the game Dodge Ball (as described in this chapter). Would the strategy work for a different-sized board? For an infinitely big board?
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