

**Math 101 - Quiz 2**  
**Show all of your work**

Name: \_\_\_\_\_

1. Draw a tree diagram and list all the possible outcomes of tossing three coins.

2. How many even 3 digit numbers are there?

3. How many different ways 3 patients can sit on 8 chairs so that no two patients are sitting next to each other?

4. How many subsets does  $A = \{1, 2, 3, \dots, 100\}$  have? How many of them have at least 3 elements?

5. Ten fair coins are tossed. What is the probability of at all tails? What is the probability of at least one head?