

Name: \_\_\_\_\_ Group #: \_\_\_\_\_ Date: \_\_\_\_\_

The population of Las Vegas, Nevada can be approximated by the function  $p(t) = 160,000(1.05)^t$  where  $t$  is the number of years since 1980.

As a group, write a sentence or more that could be read over the phone that would explain to someone on the other end what this function is saying.

The number of doctors in Las Vegas can be determined approximately by the function  $d(p) = 0.0044p$ , where  $p$  is the population.

As a group, write a few sentences that could be read over the phone that would explain to someone on the other end what this function is saying.

The National Physicians' Board is trying to determine how many doctors should be employed in the city of Las Vegas. Model the number of doctors in Las Vegas as a function of the number of years since 1980. Explain how your model and what it means. (This could be a graph, a table, or any other means.)

Approximately when will the number of doctors in Las Vegas exceed 5000? Show your work.