

Section 2.2 Worksheet:

1. The manager of an 80-unit apartment complex is trying to decide what rent to charge. Experience has shown that at a rent of \$800, all the units will be full. On the average, one additional unit will remain vacant for each \$25 increase in rent.
 - (a) Let x represent the number of \$25 increases. Find an expression for the rent, $p(x)$, of each apartment.
 - (b) Find an expression for the number of apartments rented, $q(x)$.
 - (c) Find an expression for the total revenue, $R(x)$, from all rented apartments.
 - (d) What value of x leads to maximum revenue?

(e) What should the manager of the apartment complex charge for rent to maximize revenue?

(f) What is the maximum revenue?