1. Marketing research and business analysis teams have decided to reinvest 15% of the Eddie Bauer revenues for developing a higher-tier product line and to increase advertising. These revenues will be invested as a continuous stream into an account with a 11.4% APR. Currently quarterly revenues are $63.9 million. What is the value of the advertising/new product line account 4 years from now?

2. Fundraisers estimate that to construct a new homeless shelter would require they create a continuous income stream of 450 thousand dollars per year, growing at a rate of 6% per year and invested at a rate of 4.1% for the next 12 years. A wealthy philanthropist is willing to provide the initial investment in one lump sum instead of the continuous stream of donations. How large must his donation be?
Suppose the demand for a Vespa motorscooter is given by

\[ D(p) = -0.219p^2 - 0.179p + 436.893 \] motorscooters when the price per motorscooter is \( p \) thousand dollars.

1. Find the number of Vespa motorscooters demanded when the price is $3300

2. Find the consumers’ expenditure when the price is $3300

3. Find the consumers’ surplus if the market price is $3300.
Math 2123 - Math Center Worksheet
Section 6.4

The willingness of toy manufacturers to supply a certain board game can be modeled as

\[
S(p) = \begin{cases} 
0 \text{ thousand games} & \text{if } p < 10 \\
20.435(1.076^p) \text{ thousand games} & \text{if } p \geq 10 
\end{cases}
\]

where the games are sold for \( p \) dollars each.

Find the amount producers are willing and able to receive if the market quantity is 50,000 games.