Math 2123 - Math Center Worksheet
Section 6.2

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 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?

Math 2123 - Math Center Worksheet
Section 6.3

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.