1. What does it mean for a good to be (i) normal (ii) inferior. Give examples of each.

2. Explain what is meant by a Giffen good? Which goods might be Giffen goods?

3. True or false, explain. The price elasticity of demand for Starbucks coffee is -1.24. Therefore, if the company raises price, consumer expenditures will also rise.

4. A study by Caulkins (1996) found that the price elasticity of demand for cocaine and heroin in the U.S. are -2.5 and -1.5 respectively. Provide a full interpretation of these elasticities. What reason(s) can you give for the size of the elasticities? Suppose the government wants to spend money on raising the cost of cocaine or heroin by making it harder to smuggle drugs into the country. Which drugs should it target if it wants to lower total drug consumption?

5. Explain what is meant by isoelastic demand?

6. True or false, explain. The aggregation of individual demands into market demands is just a theoretical exercise.

Part II: Problem

In the advanced planet of Aspin inhabitants take all their vitamins from the consumption of magic juice $J$ and stardust $S$. 

1
All inhabitants of Aspin have the same preferences over stardust and juice. The typical individuals preferences are represented by

\[ U(S, J) = J^{\frac{3}{4}} S^{\frac{1}{4}}. \]

Let \( p_S > 0, p_J > 0 \) denote the price for stardust and \( J \)–juice respectively. The income of a typical inhabitant of Aspin is denoted by \( I \).

1.1 Find the demand for \( S \) and \( J \) of a typical individual.

1.2 Suppose that \( I = 10 \) and \( P_S = 1 \) and that there are 1000 individuals living in Aspin. Derive the market demand for \( J \).

1.3 Suppose that \( I = 100 \) and \( P_J = 2 \) and that there are 120 individuals living in Aspin. Derive the market demand for \( S \).

1.4 What is the price elasticity of \( S \)?

1.5 What is the price elasticity of \( J \)?

1.6 Suppose the price of stardust goes up to $2. What is the demand for \( J \)?

1.7 Draw a graph of the market demand for \( J \) indicating the consumer surplus when the price is $3 and the price is $1. Indicate the change in consumer surplus.