100 points. Please write answers in ink. Use pencil for drawing graphs. Each question has an equal weight. Some questions will take longer than others to answer, so allocate your time efficiently. Good luck.

1. Each of the events below has an impact on the market for bicycles. For each event, indicate which curve is affected (supply or demand for bicycles), what direction it shifts, and what is the resulting impact on the market-clearing price and quantity for bicycles?

   a. An increase in the price of gasoline.
   b. An increase in income of consumers.
   c. A decrease in the price of steel and aluminum used to make bicycle frames.
   d. An environmental movement shifts tastes away from driving automobiles.
   e. A technological advance in the manufacture of bicycles.
   f. A reduction in the price of bicycle helmets.

2. Heyne, Boettke, Prychitko note that even primitive societies use something to function as money. What important economic role does money play in making resource use more efficient? Explain.

3. a. Companies pay more to air commercials during the Super Bowl and The Academy Awards telecasts than they do to air the same commercials during “normal” prime-time telecasts. Is it really more costly to air commercials on the Super Bowl and the Academy Awards than other prime-time television programs? Explain.

   b. Last year, the San Francisco Giants baseball club raised ticket prices. The owner of the Giants claimed that ticket prices needed to be raised to keep their star player Barry Bonds, who had just signed a five-year, $90 million contract. This did add significantly to the Giants payroll, but is it true that higher costs forced the Giants to raise ticket prices? Explain.
4. The figure below represents the market for cartons of cigarettes. Cartons of cigarettes sell for price $P_1$, and $Q_1$ cartons are exchanged per month. The government decides to impose a tax equal to one-half (50%) of the current market-clearing price ($P_1$) on the sale of cigarette cartons. Indicate in the figure the effect of the 50% tax on the quantity of cartons exchanged, the price paid by cigarette buyers, the price received by sellers, the total tax revenue collected by the government, and amount of the tax paid by buyers, and the amount of the tax paid by sellers. In this example, who pays more of the tax—buyers or sellers? Explain the factors that determine whether buyers or sellers pay more of the tax.