Economics Sac One Practice

Thomastown Sock Market Weekly

The following equations and data relate to the market for socks in Thomastown. They describe weekly demand and supply schedules for the local sock market.

The following price range applies:

Prices
$ 1.00
$ 2.00
$ 3.00
$ 4.00
$ 5.00
$ 6.00
$ 7.00
$ 8.00
$ 9.00
$ 10.00

The weekly demand for socks is given by the formula $Qd_{socks} = 73-(P*1.3)$

The weekly supply schedule is given by the formula $Qs_{socks} = 63+(1.12*P)$

Local researchers into the sock market have supplied supplementary information.

Demand Conditions

1% of weekly net income is spent on socks and adds to the number of socks demanded at each price.

20% of Gross income is paid in taxes. Gross Income less tax = Net income. Initially Gross Income = $100

On average for every 2000 people there are in the population this adds to number of socks demanded at each price level by one pair of socks. Currently Thomastown has a population of 20,000 people.

Supply Conditions

Local suppliers are highly sensitive to changes in the costs of production. Every dollar of wages paid per worker over $100 reduces the number of socks they are prepared to supply at each price level by one. So if wages rose to $101 then sock producers would supply one pair of socks less at each price. Initially wages per worker are $100 a week.

Technology greatly influences the profitability of Sock production. Currently technological improvements in production mean producers are willing to supply 10 extra pairs of socks at each price level.

General Information

Equilibrium price is given (Kd-Ks)/(Bs+Bd)
Use this to determine the equilibrium quantity.

On average each firm produces 50 pairs of socks a week.
On average each worker produces 50 pairs of socks a week.

Sales =(P*Q)

Gross Profits for the industry equal Sales less wages

Sock companies pay tax at the rate of 30%

Gross profit less Tax = Net Profit

The average household buys one pair of socks per week.

Questions

- Using this information plot the demand and supply schedules for the Sock market in Thomastown.
- Produce a chart of this market
- Calculate the equilibrium price and the equilibrium quantity.
- Adjust your model for the demand and supply conditions shown.
- Adjust your model to show the economic impact of the sock market- its impact on employment, profits, sales, firms and the number of socks consumed by each household.
- Make sure you keep a copy o f your initial values.

Using your model answer the following questions.

(1) Explain why the supply schedule slopes upward.

(2) Changes in technology mean that now producers are prepared to supply 15 extra pairs of sock at each price level. Using your model describe the effect of this on the sock market and local community.

(3) Explain the process by which the market adjusts to this technological change.

(4) Unions have argued that rather than increase research and development expenditure into technology, wages should be increased by $10.00 a week. Using your model and after a comparison of the costs and benefits advise the local council on which policy they should adopt.

(5) Explain two limitations of this spreadsheet model.

(6) Adjust the demand schedule so it is highly elastic. How does this affect the advice you gave in (4)

(7) Using the model illustrate the effects of population growth or the arrival of an extra 1000 immigrants. On the basis of your findings determine what policy the Government should adopt in relation to refugees?