3. Flowerland is an open economy with a flexible exchange rate regime. The natural rate of unemployment is 5%, the frictional rate of unemployment is 4%, and the actual rate of unemployment is 7%.

(a) What is the numerical value of the cyclical rate of unemployment in Flowerland?

(b) Assume the foreign demand for lavender oil produced in Flowerland increases. What will happen to each of the following in Flowerland in the short run?

(i) Aggregate demand. Explain.
(ii) Cyclical unemployment.

The table shows the market basket quantities and prices of lavender oil and roses, the only two goods produced in Flowerland.

Goods	Quantity (in units)	2019 Price per Unit	2020 Price per Unit
Lavender oil	40	\$3	\$4
Roses	4	\$20	\$25

(c) Assume 2019 is the base year. Based on the data in the table, calculate the price index for year 2020 in Flowerland. Show your work.

(d) If nominal income in Flowerland increased by 20% from 2019 to 2020, will the standard of living of the average citizen of Flowerland increase, decrease, or stay the same from 2019 to 2020 ? Explain.

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

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Question 3: Short — 5 points

(a)	State that the cyclical rate of unemployment in Flowerland is 2%.	**1 point**
(b) (i)	State that aggregate demand will increase and explain that net exports will increase.	**1 point**
(ii)	State that cyclical unemployment will decrease.	**1 point**
	Total for part (b)	**2 points**
(c)	Calculate the price index for year 2020 as 130 and show your work. $\frac{\text{Value of the market basket in 2020}}{\text{Value of the market basket in 2019}} \times 100 = \frac{(\$4 \times 40)+(\$25 \times 4)}{(\$3 \times 40)+(\$20 \times 4)} \times 100 = \frac{\$260}{\$200} \times 100 = 130$	**1 point**
(d)	State that the standard of living of the average citizen of Flowerland will decrease and explain that the increase in nominal income (20%) is less than the inflation rate (30%).	**1 point**
	Total for question 3	**5 points**