



Macroeconomics

Unit 3 Practice Sheet

Part 1: Aggregate Demand and Supply- Use the graph to the right to answer the questions.

1. What is the short-run equilibrium price level and output?

$PL = PL_2$ and $Q = Y_2$, Where $AD = SRAS$

2. Identify the short-run equilibrium price level and output if consumer spending fell?

$PL = PL_1$ and $Q = Y_1$, AD would shift left

3. Identify the short-run equilibrium price level and output if investment increased?

$PL = PL_3$ and $Q = Y_3$, AD would shift right

4. Identify the short-run equilibrium price level and output after a negative supply shock?

$PL = PL_3$ and $Q = Y_1$, AS would shift left

5. If the real GDP was Y_3 , what types of unemployment would exist?

Frictional and structural unemployment

6. If the real GDP was Y_2 , what types of unemployment would exist?

Cyclical, frictional and structural unemployment

7. Identify the **long-run** equilibrium price level and output if wages and resource prices are flexible.

$PL = PL_1$ and $Q = Y_3$, $SRAS$ would shift right as wages and production costs fall.

8. Assume wages and resource prices are flexible and that the economy reached long-run equilibrium. What would be the **long-run** equilibrium output if there was increase in government spending?

Y_3 , AD would increase in the short-run and $SRAS$ would shift left in the long-run. Output stays at Y_3

Part 2: Multiplier Practice- Use the graph to the right to answer the questions.

9. If an increase in consumer spending of \$10 billion would increase real GDP to \$300 billion, what is the marginal propensity to **consume**?

$MPC = .9$, The multiplier is 10. The MPS is .1

10. Assume the MPC was .8 instead. What is the least amount the government could spend to get the real GDP from \$200 to \$400 billion?

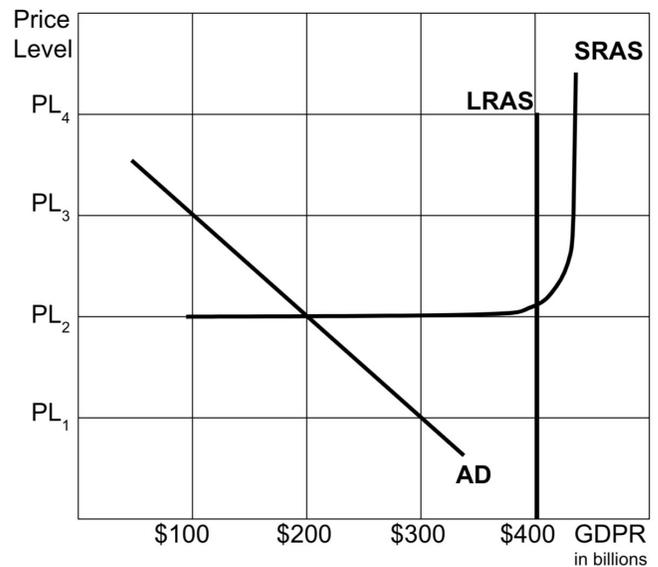
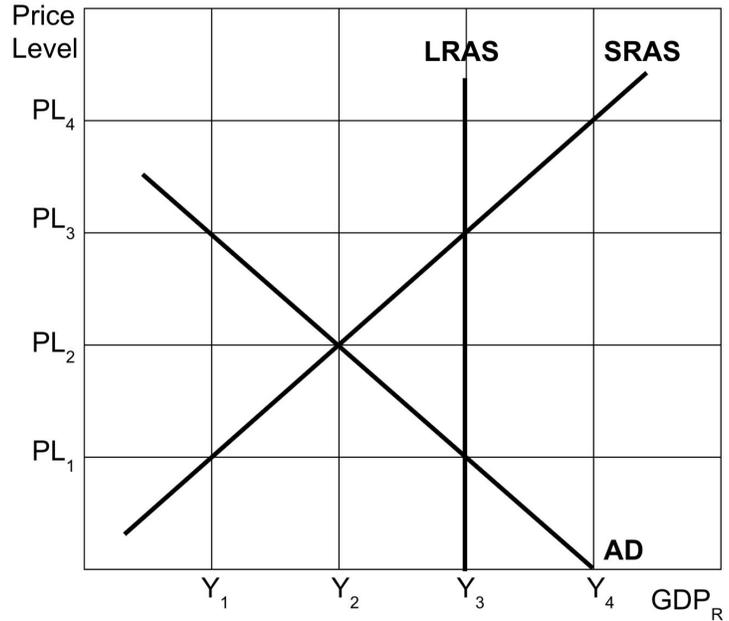
\$40 billion. Multiplier is 5 and the gap is \$200

11. Assume the MPC is .5 instead. What is the least amount the government could cut taxes to get the real GDP from \$200 to \$400 billion?

\$200 billion. Tax multiplier is 1.

12. Why does $SRAS$ eventually become vertical?

Only so much output can be produced. Beyond full employment, more demand just causes inflation.





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Part 3: More Multiplier Practice- Fill in the chart with the MPC, MPS, simple spending multiplier, and the maximum change in spending that occurs as a result of each of the following changes in consumption.

	Change in Consumption (in billions)	MPC	MPS	Multiplier	Total Change in Spending (in billions)
13.	+\$100	0.8	0.2	5	\$500
14.	-\$100	0.9	0.1	10	-\$1,000
15.	+\$300	0.75	0.25	4	\$1200
16.	-\$1,500	0.5	0.5	2	-\$3,000

Part 4- FRQ Practice- Complete the following question from the 2019 AP exam (Question 1).

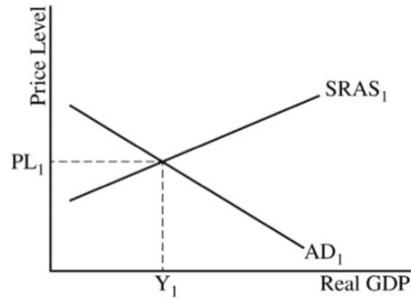
1. Canada is an open economy that is currently in a recessionary output gap.
 - (a) Draw a correctly labeled graph of the long-run aggregate supply, short-run aggregate supply, and aggregate demand curves, and show each of the following.
 - (i) The current equilibrium real output and price level, labeled as Y_1 and PL_1 , respectively
 - (ii) Full-employment output, labeled Y_f
 - (b) The central bank and the government do not take any policy actions to close the output gap.
 - (i) Explain how the economy will adjust to full employment in the long run.
 - (ii) On your graph in part (a), show how the economy adjusts to full employment in the long run.
 - (c) Suppose the Canadian government is unwilling to wait for the long-run adjustment process. The marginal propensity to consume is 0.8. The equilibrium real output is \$500 billion and the full-employment output is \$540 billion.
 - (i) Calculate the minimum change and indicate the direction of change in government spending required to shift the aggregate demand curve by the amount of the output gap.
 - (ii) Calculate the minimum change and indicate the direction of change in taxes required to shift the aggregate demand curve by the amount of the output gap.



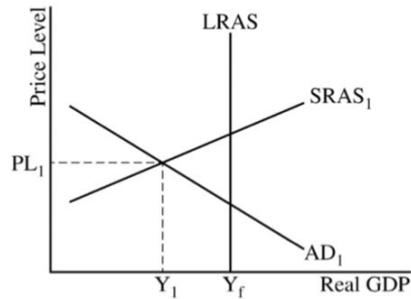
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(a) 2 points



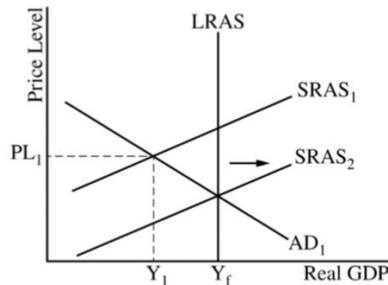
- One point is earned for drawing a correctly labeled graph showing a downward sloping aggregate demand (AD) curve, an upward sloping short-run aggregate supply (SRAS) curve, the equilibrium output level labeled Y_1 , and the equilibrium price level labeled PL_1 .



- One point is earned for drawing a correctly labeled vertical long-run aggregate supply (LRAS) curve with full employment output labeled Y_f to the right of the short-run equilibrium output level, Y_1 .

(b) 2 points

- One point is earned for explaining that nominal wages, input prices, or expected inflation will decrease, causing the SRAS curve to shift to the right until real GDP reaches full employment at Y_f .



- One point is earned for showing a rightward shift in the SRAS curve intersecting the AD curve and LRAS curve at Y_f .

(c) 2 points

- One point is earned for correctly calculating the minimum change in government spending required to change aggregate demand by the amount of the output gap as an increase of \$8 billion ($= \frac{\$40 \text{ billion}}{5}$).
- One point is earned for correctly calculating the minimum change in taxes required to change aggregate demand by the amount of the output gap as a decrease of \$10 billion ($= \frac{\$40 \text{ billion}}{-4}$).