AP CollegeBoard

AP® Macroeconomics
Sample Student Responses and Scoring Commentary
Set 1

Inside:

Free Response Question 1

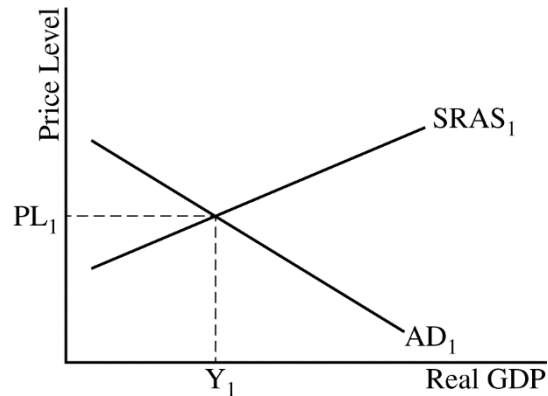☑ **Scoring Guideline**

☑ **Student Samples**
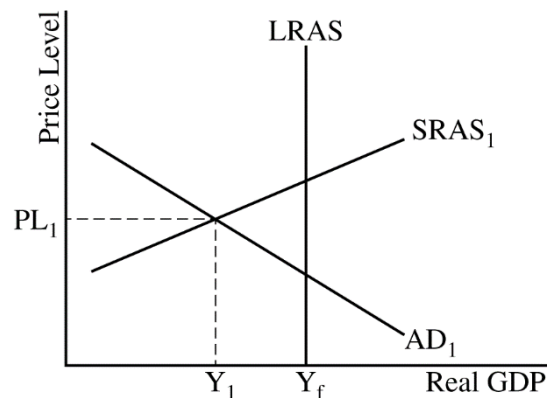
☑ **Scoring Commentary**

Question 1

10 Points (2 + 2 + 2 + 2 + 2)

(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.
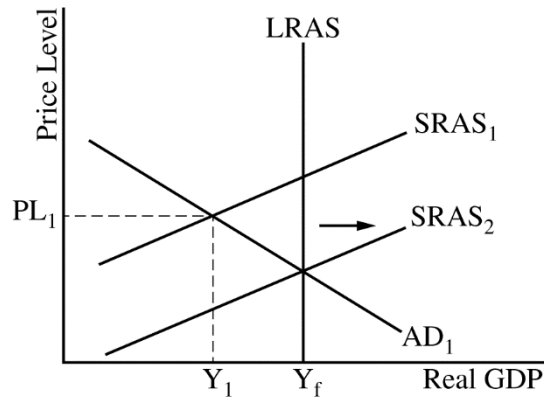

- One point is earned for drawing a correctly labeled vertical long-run aggregate supply (LRAS) curve with full employment output labeled Y_f to the right of the short-run equilibrium output level, Y_1.

(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.
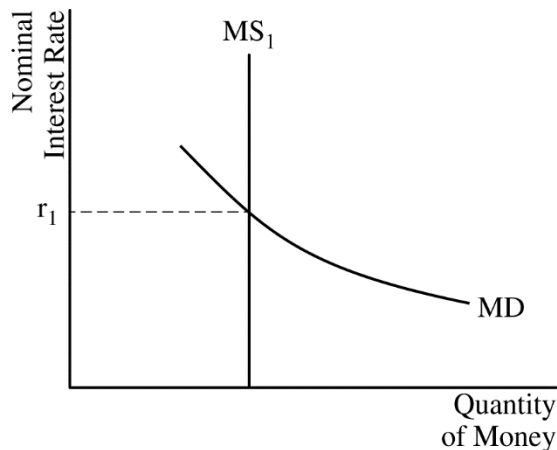
Question 1 (continued)

- 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}$).
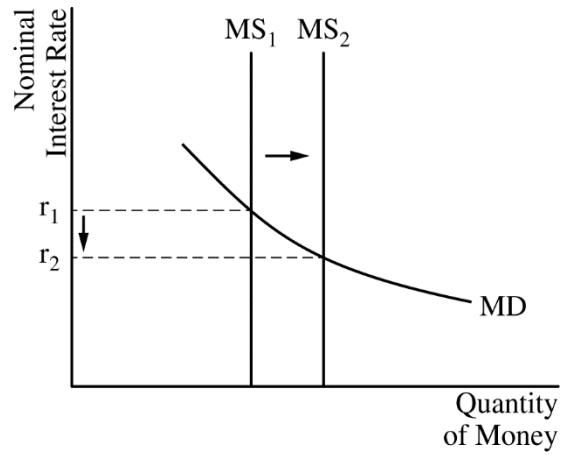
(d) 2 points

- One point is earned for drawing a correctly labeled graph of the money market.
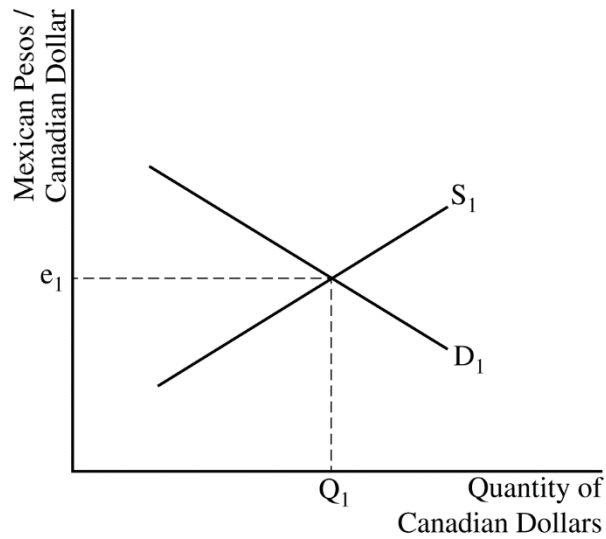
Question 1 (continued)

- One point is earned for showing a rightward shift in the money supply curve, resulting in a lower nominal interest rate.

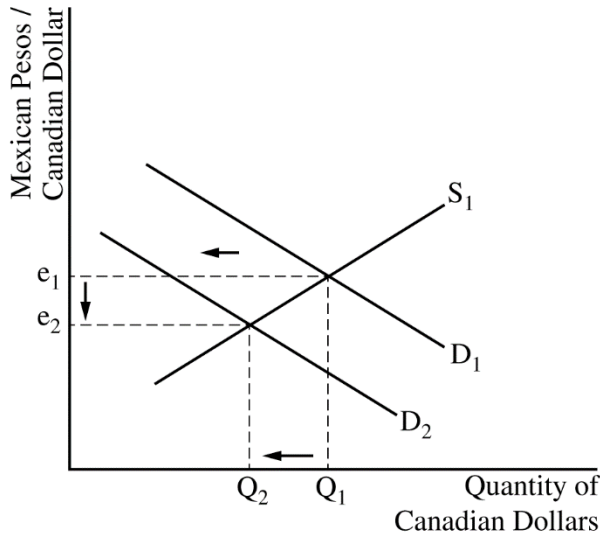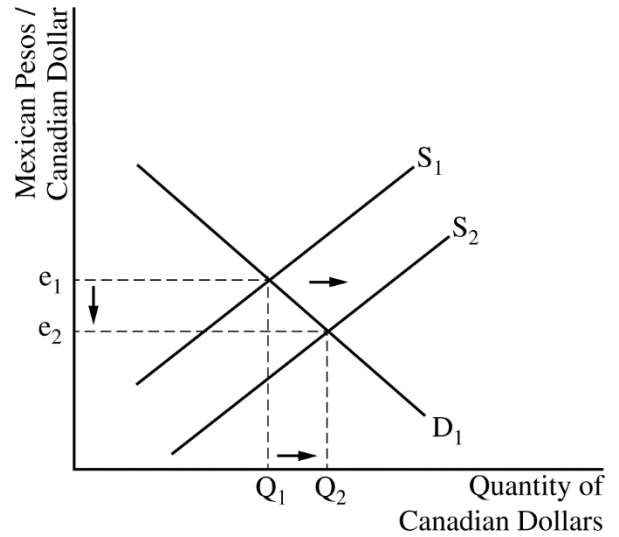**(e) 2 points**

- One point is earned for drawing a correctly labeled graph of the foreign exchange market for the Canadian dollar.
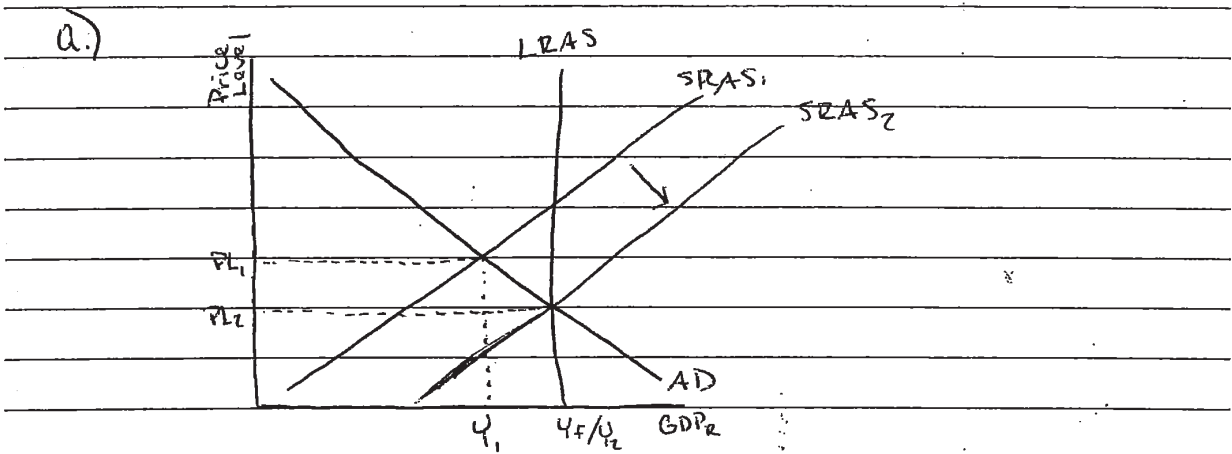
- One point is earned for showing a leftward shift of the demand curve for Canadian dollars (or a rightward shift of the supply curve of Canadian dollars) and for showing that the Canadian dollar will depreciate against the Mexican peso.

a.)

Price Level / LRAS / SRAS₁ / SRAS₂ / PL₁ / PL₂ / AD / Y₁ / Yf/Y₂ / GDP_R

b.) i) Eventually wages will fall and short run aggregate supply will increase. and adjust to full employment.

540 - 500 = 40

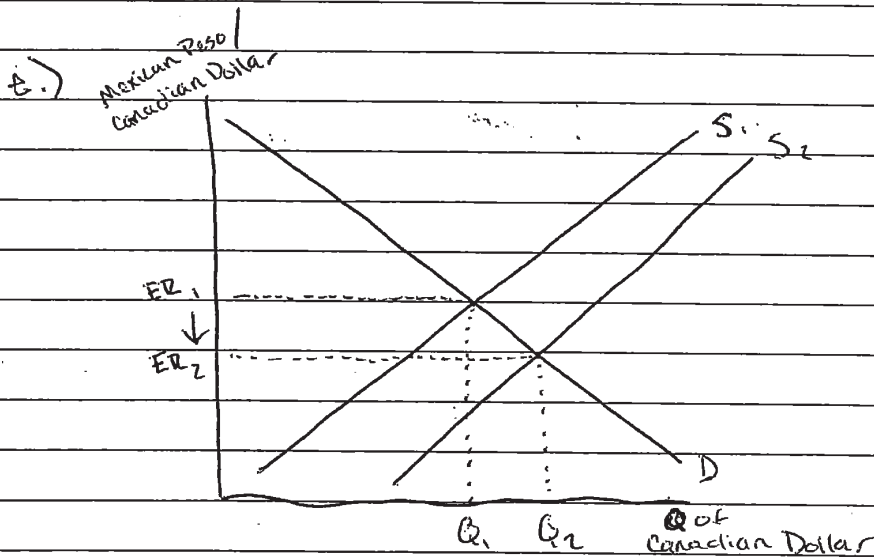c.) ii) spending multiplier is 5   40 ÷ 5 = 8
The minimum change is $8 billion and government spending will have to increase to shift the aggregate demand curve to the right by the amount of the output gap.

MPC/MPS

ii.) Tax multiplier is 4   40 ÷ 4 = 10
The minimum change is $10 billion and taxes will have to decrease to shift the aggregate demand curve to the right by the amount of the output gap.

-5-

d.)

Nominal interest rate

MS_1 MS_2

IR_1 ....

IR_2 ....

MD

Q_1 Q_2 Q of Money

e.) Mexican Peso / Canadian Dollar

S_1 S_2

ER_1 ....

ER_2 ....

D

Q_1 Q_2 Q of Canadian Dollar

-7-

a. ASAD-Canada
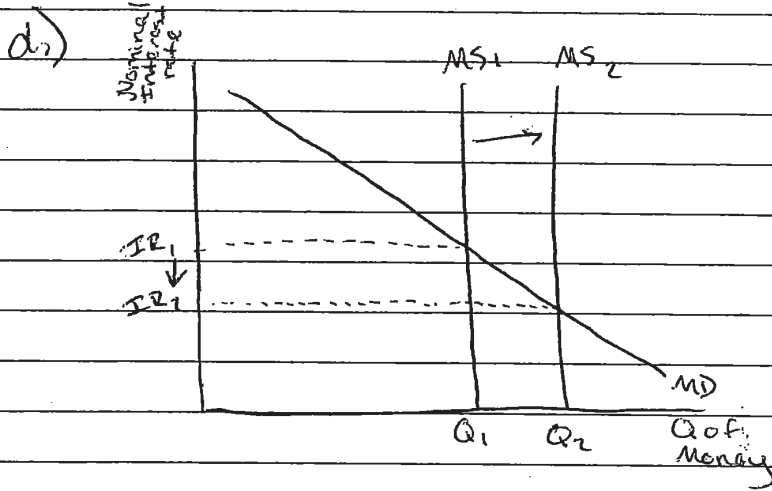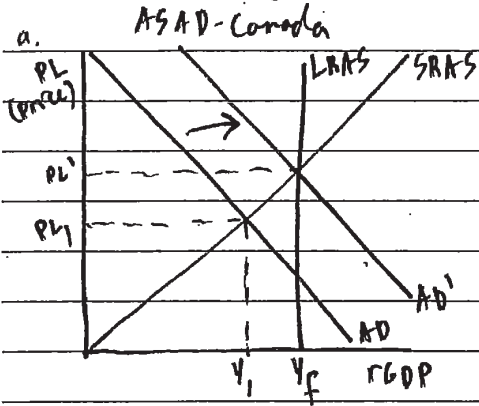
b).i. Aggregate demand would increase, increasing price level and rGDP

c).i. Δspending ($\frac{1}{.2}$) = $40 billion, Δ spending = $8 billion. AD shifts rightward government spending increases by $8 billion.

ii. taxes = $-MPC/MPS = -\frac{.8}{.2} = -4$; 5-4 = 9. Taxes must decrease by $9 billion.
   mm   taxes

D). Money Mkt Canada

interest rate decreases
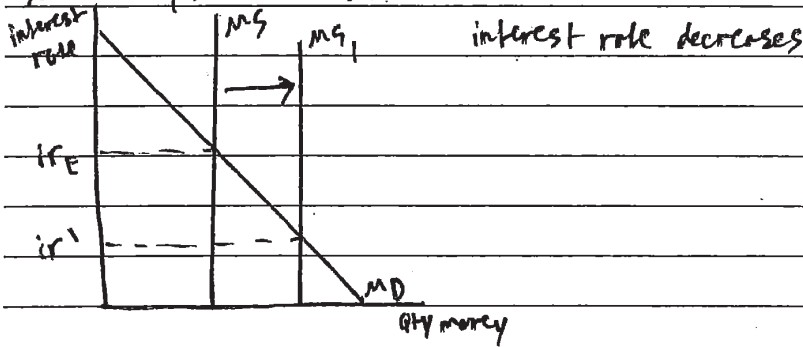
e) For-Ex Canada $
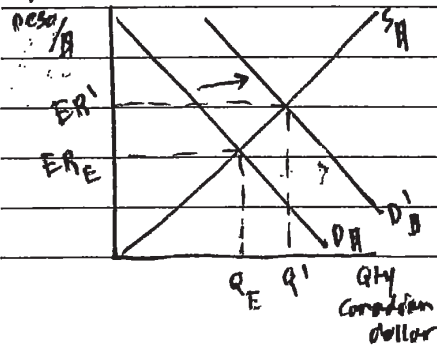
because ir↓ Canadian dollar appreciates with respect to Mexican peso. Demand for dollar increases. Qty of dollar increases. Exchange rate of peso per dollar increases.

1C 1 of 2

A) Price Level

b ii) →

LRAS

SRAS

PL1

AD₁

AD

Y₁   YF   REGDP
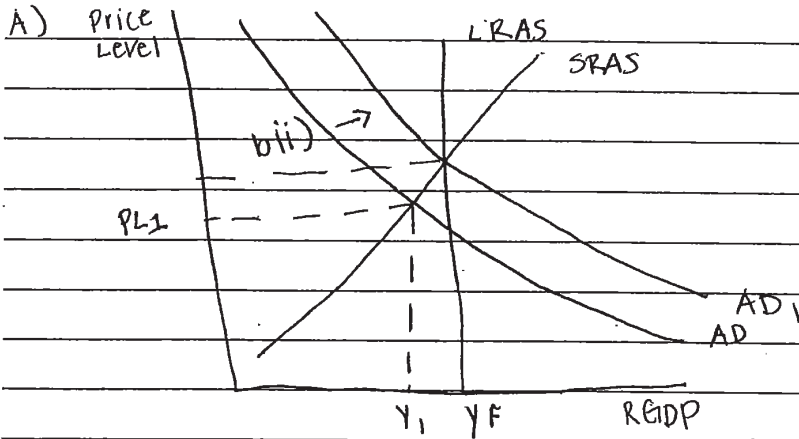
B) i) The economy will adjust to full employment in the long run by letting "sticky wages" adjust over a period of time. Without any action being taken, all the economy can do is wait and see when it reaches full employment.

C) i) Government spending must increase for aggregate Demand to shift.

ii) Taxes must be reduced for aggregate demand to shift.

D)

LRSM

SM (investment spend)

SM₁

e

DM

e   e₁
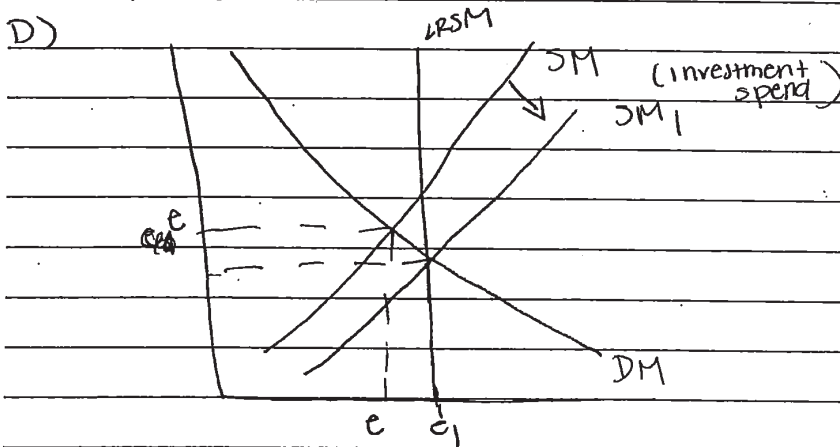
ε) can.
dollar

Mex.
peso

AP® MACROECONOMICS
2019 SCORING COMMENTARY

Question 1

Note: Student samples are quoted verbatim and may contain spelling and grammatical errors.

Overview

The question examined students' understanding of the aggregate demand/aggregate supply (AD/AS) model and how the model can be used to show a recessionary output gap in the Canadian economy. The question also asked students to demonstrate their understanding of how the economy could return to long-run equilibrium through the process of self-correction or, alternatively, through the use of fiscal policy. Finally, the question examined students' understanding of the linkages between the performance of the Canadian economy and the foreign exchange market for the Canadian dollar.

Part (a) required students to use the AD/AS model to show the Canadian economy in a recession by illustrating that the current level of output (real gross domestic product, RGDP) is less than the full employment level of output. For part (b) students were asked to assume the central bank and the government take no policy actions to close the recessionary gap. Then, in part (b)(i) the students were asked to explain how the economy would adjust to full employment in the long run. Part (b)(ii) required the student to show the adjustment process described in part (b)(i) on the graph created for part (a).

In part (c) students were told to assume that the Canadian government was unwilling to wait for the long-run adjustment process to return the economy to full employment. Furthermore, the students were told to assume that the marginal propensity to consume was 0.8, that the current level of output was $500 billion, and that the full employment level of output was $540 billion. In part (c)(i) the students were asked to calculate the minimum change in government spending needed to close the gap. Part (c)(ii) asked the students to calculate the minimum change in taxes needed to close the gap. In both parts of (c) the students were required to indicate the direction of change (i.e., an increase or decrease in government spending) in addition to the magnitude of the change.

Part (d) asked students to assume that instead of the Canadian government using fiscal policy to close the gap, the Canadian central bank took the appropriate policy action to close the gap by influencing investment spending. Students were required to draw a correctly labeled graph of the Canadian money market and to show the effect of the policy action on the equilibrium interest rate.

Part (e) asked students to draw a correctly labeled graph of the foreign exchange market for the Canadian dollar and to show the effect of the change in the interest rate illustrated in the money market graph in part (d) on the exchange rate.

Sample: 1A
Score: 10

The student answers all parts of the question correctly and earned all 10 points.

Sample: 1B
Score: 6

The student did not earn 1 point in part (b)(i) because the response does not explain that nominal wages would fall during a recession. The student did not earn 1 point in part (b)(ii) for incorrectly showing a rightward shift of the aggregate demand curve. The student did not earn 1 point in part (c)(ii) for incorrectly calculating the minimum amount of a tax cut required to increase aggregate demand by the amount of the output gap. The student did not earn 1 point (the second point) in part (e) for incorrectly showing a rightward shift of the demand curve for Canadian dollars and for concluding that the Canadian dollar will appreciate.

Sample: 1C
Score: 2

The student earned 1 point in part (a)(i) for drawing a correctly labelled aggregate demand and supply graph and for showing the equilibrium real output and price level. The student earned 1 point in part (a)(ii) for correctly showing that the current output (Y_1) is less than the full-employment level of output (Y_f) at the LRAS curve.