Assignment 3
Deadline: July 10, 2005

Part A  Multiple-Choice Questions

1. The multiplier model assumes that the aggregate supply curve is:
   A) flat - the price level is fixed.
   B) upward sloping - the price level is semi-flexible.
   C) vertical - the price level is perfectly flexible.
   D) irrelevant - only aggregate expenditures matter in this model.

2. In the expenditures function AE = AE₀ + mpcY, induced expenditures are given by:
   A) AE₀.
   B) AE₀ + Y.
   C) mpc Y.
   D) Y.

3. In the expenditures function AE = AE₀ + mpcY autonomous expenditures are given by:
   A) AE₀.
   B) Y.
   C) mpc Y.
   D) AE₀ + mpc Y.

4. If autonomous expenditures are $1,000, income is $5,000 and the marginal propensity to consume is 0.6, then total expenditures according to the expenditure function would be:
   A) $3,000.
   B) $4,000.
   C) $5,000.
   D) $13,500.
Use the following to answer question 5:

<table>
<thead>
<tr>
<th>Income</th>
<th>Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0</td>
<td>$1,000</td>
</tr>
<tr>
<td>1,000</td>
<td>1,800</td>
</tr>
<tr>
<td>2,000</td>
<td>2,600</td>
</tr>
<tr>
<td>3,000</td>
<td>3,400</td>
</tr>
<tr>
<td>4,000</td>
<td>4,200</td>
</tr>
<tr>
<td>5,000</td>
<td>5,000</td>
</tr>
</tbody>
</table>

5. The expenditures function that reflects the table above is:
   A) $AE = 1000 + 0.8Y$.
   B) $AE = 0.8Y$.
   C) $Y = 100 + 0.8AE$.
   D) $Y = 0.8AE$.

6. If a country's exchange rate increases, its expenditures function will:
   A) become steeper.
   B) become flatter.
   C) shift up.
   D) shift down.

7. If real wealth increases because the stock market is booming, we might expect the expenditures function to:
   A) become steeper.
   B) become flatter.
   C) shift up.
   D) shift down.
8. Refer to the graph above. The equilibrium level of real income is:
   A) $200
   B) $600
   C) $800
   D) $1000

9. Refer to the graph above. If income is $1200:
   A) inventories are at the desired level.
   B) inventories are above their desired level.
   C) inventories are below their desired level.
   D) real income cannot be determined.

10. Suppose you are told that $AE = 7000 + 0.75Y$. Using this equation and the multiplier, what will equilibrium income be?
    A) $8,000.
    B) $10,000.
    C) $20,000.
    D) $28,000.

11. Suppose $AE = 1000 + 0.2Y$. According to the multiplier equation, equilibrium income will be:
    A) $1000.
    B) $1250.
    C) $2500.
    D) $3750.
12. If the $mpc$ is 0.8 and autonomous expenditures are $2000$, then the multiplier equation implies that total equilibrium expenditures in the economy are:
   A) $2,500$.
   B) $4,000$.
   C) $10,000$.
   D) $40,000$.

13. As the marginal propensity to consume rises, the multiplier:
   A) decreases.
   B) remains constant.
   C) increases.
   D) changes unpredictably.

14. The $mps$ is larger, other things equal, when:
   A) the multiplier is larger.
   B) the multiplier is smaller.
   C) the $mpc$ is larger.
   D) the economy is in equilibrium.

Use the following to answer question 15:

![Graph showing the relationship between real income and real output.](image-url)
15. Refer to the graph above. If autonomous expenditures rose by 100 equilibrium income would be:
   A) 150
   B) 300
   C) 450
   D) 600
Part B   True/ False/ Uncertain Questions

Explain why the following statement is True, False, or Uncertain according to economic principles. Use diagrams and/or numerical examples where appropriate. Unsupported answers will receive no marks. It is the explanation that is important.

B-1.   A decrease in the price level shifts the AE curve upward and AD curve rightward.

B-2.   A decrease in U.S. GDP shifts the Canadian AE curve downward and AD curve leftward.

B-3.   An increase in the consumer confidence level leads to an increase in the equilibrium real income in the multiplier model.
Part C    Problem Solving Questions

Answer all parts of the following question.

C-1

Consider the following simple, fixed price, open economy model of Canadian economy with excess capacity:

\[ C = 60 + 0.6Y_d \]

\[ T = 40 + 0.25Y \]

\[ R = 20 \]

\[ I = 60 \]

\[ G = 70 \]

\[ X = 44 \]

\[ IM = 10 + 0.15Y \]

where, \( C \) is consumption, \( Y_d \) is disposable income, \( T \) is taxes, \( R \) is government transfers, \( Y \) is real GDP, \( I \) is investment, \( G \) is government expenditures on goods and services, \( X \) is exports and \( IM \) is imports.

(a) Solve for aggregate expenditures (\( AE \)) as a function of \( Y \), and calculate the equilibrium level of real GDP. Illustrate your equilibrium in a diagram with \( AE \) on the vertical and \( Y \) on the horizontal axis. What is the value of the multiplier?

(b) What happens to the equilibrium \( Y \) in part (a), if the \( X \) increases to 64 because of the rise in the U.S. real GDP? Find the new equilibrium \( Y \) and show it in the diagram.

(c) Derive graphically (in a separate graph) the aggregate demand (\( AD \)) curve from the \( AE \) function and show in the diagram how the AD curve will respond to this increase in \( X \).