

Laurier Economics Club

EC140 Mock Midterm 1 – Answer Key with Explanations



Name: _____

- If one Canadian dollar can be exchanged for 0.5 euros, we say that the Canadian- euro exchange rate is

Answer: E) 2.0

Explanation: It takes two times the number of Canadian dollars to get 1 Euro
- Suppose a small city has a population of 100 000 and a labour force of 60 000. Employment is 55,000 and 5000 workers are unemployed. How many people are not in the labour force?

Answer: A) 40 000

Explanation: The number of people not in the labour force is the total population - the number in the labour force.
- Workers with experience and skills sometimes lose their jobs and become unemployed due to changing technology or market conditions, even while firms in other industries or regions are looking to hire more workers. This type of unemployment is called:

Answer: C) structural unemployment

Explanation: Definition of the term. There is a mismatch between the skills the workers can offer and the skills needed by the economy.
- If the Consumer Price Index changes from 120 in the year 2012 to 126 in the year 2014, the average rate of inflation per year over this two- year period is approximately

Answer: C) 2.5%

Explanation: $\frac{126-120}{120} \times 100 = 5\% \rightarrow \frac{5\%}{2 \text{ years}} = 2.5\%$
- If the price index is P 1 in one year and P 2 in the next year, the inflation rate from one year to the next is calculated as:

Answer: C) $[(P 2 - P 1)/P 1] \times 100$
- Inflation, the rate of change of average prices in the economy, generally

Answer: C) reduces the real value of existing nominal debt.

Explanation: If you owed somebody 10 dollars today and waited 1 year to pay them with inflation rate of 3%. That same ten dollars today would only be worth 10/1.03 in 1 year. "A dollar today worth more than a dollar tomorrow"
- A change in the Consumer Price Index measures

Answer: E) a change in a broad average price over some particular time span.

Explanation: Definition of CPI
- Consider the growth in Canada's labour force and employment. Over the last 50 years,

Answer: D) the main trend of the economy has been one of growth in employment that roughly matches the growth in the labour force.
- Suppose the Bank of Montreal wants a 5% real rate of return on all its loans, and anticipates an annual inflation rate of 4%. It should therefore lend its money at a nominal interest rate of

Answer: D) 9%

Explanation: $Real Rate = Nominal Rate - Inflation Rate \rightarrow Nominal = Real + Inflation$
 $Nominal = 5\% + 4\% = 9\%$

10. Suppose that in 2012, Canada Cars Corporation produced \$20 million worth of cars and trucks but was able to sell only \$16 million worth. Is the remaining \$4 million increase in inventories part of GDP for 2012?

- I. Yes, since changes in inventories are part of consumption expenditures.
- II. Yes, since they are part of the economy's output in 2012.
- III. Yes, since changes in inventories are part of actual investment.

Answer: E) both 2 and 3

11. Which types of payments are not factor payments

Answer: E) Interest

Gross Investment Expenditure	\$	402.00
Wages and Salaries	\$	1,741.00
Consumption Expenditure	\$	1,302.40
Interest and Investment Income	\$	99.40
Business Profits	\$	70.40
Depreciation	\$	199.20
Indirect taxes less subsidies	\$	175.20
Net Exports	\$	94.00

Table 12-1

12. Refer to **Table 12-1**. What is the value of GDP?

Answer: E) \$2285.20

Explanation:

$$GDP = Wages + Interest \& Investment Income + Profit + Depreciation + Taxes less subsidies$$

$$GDP = 1741 + 99.40 + 70.40 + 199.20 + 175.20 = \$ 2285.20$$

13. There are 5 million people who are unemployed. One million are unemployed and not looking for a job. 20 million people are employed. What is the unemployment rate?

Answer: B) 16.67%

Explanation: $Unemployment Rate = Unemployed / Labour Force$
(Discouraged workers are not included)

$$Unemployment Rate = \frac{4}{20 + 4} = 16.67\%$$

14. GNP is \$2.5 billion in an economy \$200 million in taxes \$20 million in depreciation \$30 million in transfer payments \$10 million in interest and \$50 million in profits, what is the Disposable total income?

Answer: B) \$2.25 billion

Explanation:

$$Disposable Total Income$$

$$= GNP - Taxes - Depreciation$$

$$+ Transfer Payments - Interest - Retained Earnings$$

$$Disposable Total Income = 2.5 - 0.2 - 0.02 + 30 - 10 - 50 \approx \$2.25 Billion$$

15. If there is an increase in the amount of home production what will that have an effect on

Answer: B) Neither CPI nor GDP deflator

Explanation: Slide #29 from Chapter 20 in Dr. Ken Jackson's slides

Omissions from GDP

- Illegal activities
- Underground (informal) economy
- Home production
- Economic "Bads"
 - We don't deduct the effects of negative externalities
 - We also don't include the value of positive externalities

Ken Jackson (World Laurier University) EC140 - Class 2 Measuring National Income January 6th, 2016 29 / 32



Year	Money GDP*	Deflator	Real GDP**
2010	\$ _____	105	\$760 000
2011	\$820 000	106	\$ _____
2012	\$855 000	_____	\$800 000

Table 16-1

16. Refer to **Table 16-1**. The growth rate of nominal output from 2010 to 2011 is

Answer: C) 2.76%

Explanation:

$$\frac{NGDP_{2010}}{760,000} \times 100 = 105$$

$$NGDP_{2010} = 798,000$$

$$Growth = \frac{820,000 - 798,000}{798,000} = 2.76\%$$

17. Suppose that nominal national income in some country fell from \$100 billion to \$95 billion during 20) the year. Over the same period, inflation was 5%. Therefore the real national income in this country

Answer: A) fell by 10%.

Explanation: Decrease in income of 5% and decrease in purchasing power of 5% therefore overall 10% decrease

18. If there are 20M people unemployed and 50M people employed. Three million people become discouraged and accept their fate of living in their parents' basement for the rest of their lives what happens to the unemployment rate?

Answer: A) Decreased from 28.6% to 25.4%

Explanation:

$$unemployment\ rate\ (Before) = \frac{20}{20 + 50} = \frac{20}{70} = 28.6\%$$

$$unemployment\ rate\ (After) = \frac{20 - 3}{20 + 50 - 3} = \frac{17}{67} = 25.4\%$$

19. Suppose the previous year's CPI is 149 and the inflation rate this year 15%, what is the CPI this year?

Answer: D) 171.35

Explanation: Change in CPI is equal to the inflation rate, therefore:

$$\frac{x - 149}{149} = 0.15$$

$$x = 171.35$$

20. If $C = 100 + 0.15Y_D$ and $Y_D = 250$, what is the APC (average propensity to consume)?

Answer: B) 0.55

Explanation:

$$C = 100 + 0.15 \times 250 = 137.5$$

$$APC = \frac{C}{Y_D} = \frac{137.5}{250} = 0.55$$

21. If the consumption function is $C = 115 + 0.4Y_D$ and $I_0 = 70$. What is the disposable income?

Answer: D) 308

Explanation:

$$AE = C + I$$

$$Y = 115 + 0.4Y + 70$$

$$0.6Y = 185$$

$$Y = 308$$

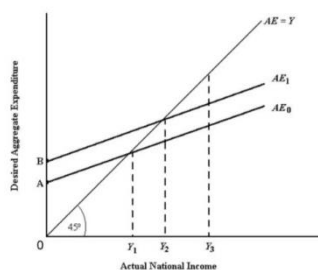


Figure 22-1

22. Refer to **Figure 22-1**. A shift in the aggregate expenditure function downward from AE_1 to AE_0 could be caused by

Answer: C) an increase in autonomous desired saving

23. Consider a consumption function of the following form: $C = 50 + 0.6 \times Y_D$. At what level of disposable income will desired savings be equal to zero?

Answer: C) 125

Explanation:

$$Y = 50 + 0.6 \times Y$$

$$0.4 \times Y = 50$$

$$Y = 125$$

24. If $C = 144 + 0.34Y_D$ and $I = 200$, how much would income change by if investment increased by 50

Answer: A) 75.76

Explanation:



Step 1:	Step 2:	Step 3:
$AE = C + I$ $Y = 144 + 0.34Y + 200$ $0.66Y = 344$ $Y = 521.21$	$AE = C + I$ $Y = 144 + 0.34Y + 150$ $0.66Y = 294$ $Y = 445.45$	$521.21 - 445.45 = 75.76$

25. Suppose aggregate output is demand-determined. Suppose a decrease in autonomous investment expenditure of \$20 million reduces equilibrium national income by \$50 million. The marginal propensity to spend is equal to

Answer: E) 0.6

Explanation:

$$\text{Multiplier} = \frac{50}{20} = 2.5$$

$$\frac{1}{1 - MPS} = 2.5$$

$$MPS = 0.6$$

26. Total tax revenue is \$200 billion. The government spends \$75 billion on government purchases, and \$100 billion on transfers. Which of the following statements is true?

Answer: D) The government has a budget surplus.

Explanation: Total tax revenues of \$200 billion exceed government purchases and transfers of \$175 billion. It is not option A because transfers are not included in the calculation of government spending.

27. Consider a macro model with demand-determined output. The equations are: $C = 150 + 0.8Y_d$, $Y_d = Y - T$, $I = 400$, $G = 700$, $T = 0.2Y$, $X = 130$, and $IM = 0.14Y$. The marginal propensity to spend on national income in this model is

Answer: A) 0.50

Explanation:

$$Y = 150 + 0.8Y + 400 + 700 + (130 - 0.14Y)$$

$$Y = 150 + 0.8 \times (Y - 0.2Y) + 400 + 700 + 130 - 0.14Y$$

$$Y = 150 + 0.8Y - 0.16Y + 400 + 700 + 130 - 0.14Y$$

$$Y = 1,380 + 0.5Y$$

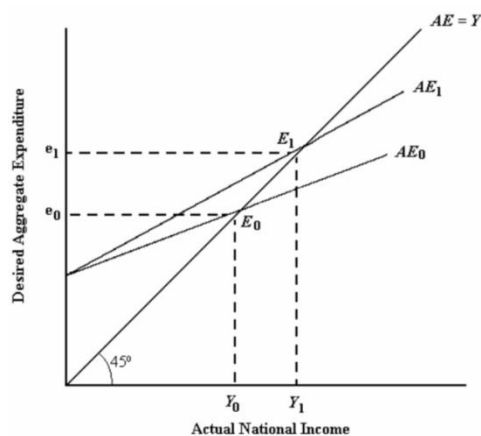


Figure 28-1

28. Refer to the **Figure 28-1** above. The movement from AE_0 to AE_1 could be caused by:

Answer: B) A lower net tax rate

Explanation: Higher government purchases would cause the y-intercept to shift upwards, but we see a shift in only the slope, so therefore it is not (a). Therefore, because a lower net tax rate causes a shift in the slope, the answer is (b).

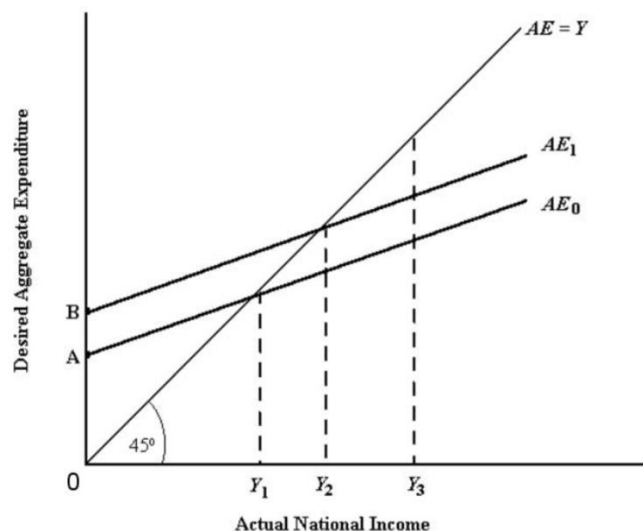


Figure 29-1

29. Refer to the **Figure 29-1** above. If national income is Y_3 and the aggregate expenditure function is AE_1 :

Answer: C) There is unintended inventory accumulation and income will fall

Explanation: Slide #25 in Chapter 22 (Part 1) from Dr. Ken Jackson's slides

Equilibrium National Income

- Equilibrium occurs when choices are mutually consistent
- If $AE > Y$, inventories would be falling, firms would increase output, and therefore income would rise
- If $AE < Y$, inventories would be rising, firms would then reduce output, and therefore income would fall
- Equilibrium occurs where desired aggregate expenditure, AE , equals actual national income, Y

30. Refer to the **Figure 29-1** above. If national income is Y_1 and the aggregate expenditure function is AE_1

Answer: D) There is unintended fall in inventories and income will rise

Explanation: Refer to previous answer's explanation

31. An increase in the value of the simple multiplier can be caused by:

Answer: B) A decrease in the net tax rate

Explanation:

$$\text{Simple Multiplier} = \frac{1}{1-z}, \text{ where } z = MPS$$

lower tax rate increases the value of the multiplier

32. Consider the following: $C = 150 + 0.8Y_D$, $NX = 0$, and $I_0 = 150$. We add a government that spends $G = 100$, without collecting any taxes, what is equilibrium income?

Answer: D) 2000

Explanation:

$$\begin{aligned} AE &= C + I + G + NX = Y \\ 150 + 0.8Y + 150 + 100 + 0 &= Y \\ 400 + 0.8Y &= Y \\ 400 &= 0.2Y \\ Y &= 2000 \end{aligned}$$

Scenario 33-1: The following information is for question 33, assume the following:

$$\begin{aligned} C &= 50 + 0.7Y_D, T = 0.2 \times Y \\ I &= 75, \quad X = 50, \quad G = 100, \quad IM = 0.15 Y \end{aligned}$$

33. Refer to **Scenario 33-1** above. What is the simple multiplier?

Answer: B) 1.69

Explanation:

$$\begin{aligned} Y &= 50 + 0.7Y_D + 75 + 100 + (50 - 0.15Y) \\ Y &= 50 + 0.7 \times (Y - 0.2Y) + 75 + 100 + 50 - 0.15Y \\ Y &= 50 + 0.56Y + 75 + 100 + 50 - 0.15Y \\ Y &= 275 + 0.41Y \end{aligned}$$

$$\text{Simple Multiplier} = \frac{1}{1-z} = \frac{1}{1-0.41} = 1.6949 \approx 1.69$$

34. When compared to a simple macroeconomic model (with only consumption and investment), adding government and foreign trade to the AE function causes:

Answer: C) The autonomous component of AE to increase

The following information is for Question 35.

The diagram below shows desired aggregate expenditure for a hypothetical economy.

Assume the following features of this economy:

- Marginal propensity to consume (mpc) = 0.75
- Net tax rate (t) = 0.20
- No foreign trade
- Fixed price level
- All expenditure and income Figures are in billions of dollars.

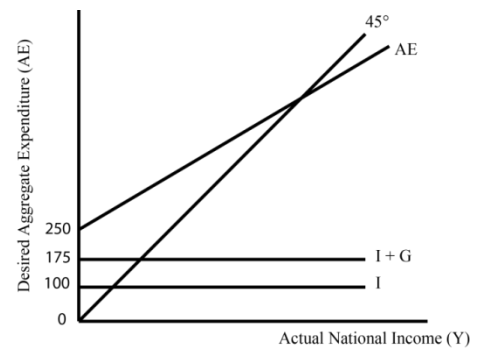


Figure 35-1

35. Refer to the **Figure 35-1**. What is the equilibrium national income in this economy?

Answer: C) \$625

Explanation:

$$\begin{aligned}
 Y &= 75 + 0.75(Y - 0.20Y) + 100 + 75 \\
 Y &= 250 + 0.75(0.80Y) \\
 Y &= 250 + 0.60Y \\
 0.40Y &= 250 \\
 Y &= \$625
 \end{aligned}$$

36. If the government's net tax rate increases, then for a given level of national income disposable income will _____ and net tax revenue will _____.

Answer: B) decrease; increase