Chapter 3

1. An important reason for developing national accounts was to
   a.   analyse the causes of trend growth.
   b.   analyse the causes of trend inflation.
   c.   divert resources for war.
   d.   identify the stages of inputs becoming final output.
   e.   inform finance markets about the state of the economy.

   ANS: C   PTS: 1   DIF: moderate
   NAT: Introduction

2. The two sectors in a simple circular flow model are
   a.   the public and the private sectors.
   b.   inputs and outputs.
   c.   consumption and saving.
   d.   spending and income.
   e.   households and firms.

   ANS: E   PTS: 1   DIF: basic
   NAT: The circular flow diagram: a model of the macroeconomy

3. In the process of calculating the production of the economy of the United States, which of the
   following must be taken into account?
   a.   Some of the goods that people buy are sent to the US from abroad.
   b.   Some of the goods produced in the economy are sent to other countries.
   c.   Some goods are used as inputs to the production of other goods.
   d.   All of the options listed.
   e.   .

   ANS: D   PTS: 1   DIF: challenging
   NAT: A precise definition of GDP

4. GDP is
   a.   a measure of the value of all newly produced final goods and services in a country during
        some period of time.
   b.   a measure of the value of all goods and services produced in a country during some period
        of time, corrected for inflation.
   c.   a measure of the value of all goods and services sold in a country during some period of
        time.
   d.   a measure of the value of all goods and services produced by the nation's citizens during
        some period of time.
   e.   a measure of the value of all goods and services produced by the nation's citizens during
        some period of time, corrected for inflation.

   ANS: A   PTS: 1   DIF: moderate
   NAT: A precise definition of GDP

5. What best describes what is included in the GDP measure?
   a.   Newly produced goods, services and financial assets
   b.   Only newly produced wealth
   c.   All goods and services sold
   d.   Only newly produced goods and services

e. Any economic interaction involving the exchange of money

ANS: D   PTS: 1   DIF: basic
NAT: A precise definition of GDP

6. Where are the goods and services included in a country's GDP produced?
    a. Within the borders of that country plus those goods produced abroad by that country's residents, less domestic goods produced by foreign residents
    b. Within the borders of that country except for those goods produced in the country by non-residents or with capital owned by foreigners
    c. Anywhere that country's residents produce goods and services
    d. Within that country's borders
    e. Within the borders of that country except for those goods produced in the country with capital owned by foreigners

ANS: D   PTS: 1   DIF: moderate
NAT: A precise definition of GDP

7. GDP numbers are often quite large, measured in trillions. How many billions make a trillion?
    a. 10
    b. 100
    c. 1,000
    d. 1 million
    e. None of these

ANS: C   PTS: 1   DIF: moderate
NAT: The spending approach to measuring GDP

8. What was the approximate level of Australia's GDP in 2012?
    a. $15 trillion
    b. $950 billion
    c. $95 billion
    d. $1.5 trillion
    e. $9.5 trillion

ANS: D   PTS: 1   DIF: moderate
NAT: The spending approach to measuring GDP

9. In dollar terms, Australia's GDP in 2012 is approximately
    a. $9,500,000,000,000,000.
    b. $15,000,000,000,000.
    c. $1,500,000,000,000.
    d. $95,000,000,000,000.
    e. $95,000,000,000.

ANS: C   PTS: 1   DIF: moderate
NAT: The spending approach to measuring GDP

10. Joe builds a garage that is valued at $25,000. To build the garage, Joe purchased newly made materials for a total cost of $15,000. The value of GDP in this case would
    a. increase by $40,000.
    b. increase by $25,000.
    c. increase by $15,000.
    d. increase by $10,000.
    e. decrease by $10,000.

ANS: C   PTS: 1   DIF: moderate
NAT: A precise definition of GDP

11. Sally buys a house that was built 50 years ago for $100,000. A real estate agent helps her find and purchase the house, and the real estate agent receives 6 per cent of the value of the sale, or $6,000, from the seller of the house. The value of GDP
   a. increases by $100,000.
   b. increases by $94,000.
   c. increases by $106,000.
   d. increases by $6,000.
   e. is not affected because the house was not produced in the current time period.

ANS: D   PTS: 1   DIF: moderate
NAT: A precise definition of GDP

12. GDP can be calculated by adding the value of
   a. all final goods produced in a country within a given period.
   b. all intermediate and final goods produced in a country within a given period.
   c. all intermediate goods produced in a country within a given period.
   d. all final goods produced in a country within a given period minus the value of all intermediate goods produced.
   e. all final goods or the value of all intermediate goods produced in a country within a given period, whichever is smaller.

ANS: A   PTS: 1   DIF: moderate
NAT: A precise definition of GDP

13. *True* or *False*. US GDP includes the value of goods and services produced by US citizens abroad.

ANS: F   PTS: 1   DIF: basic
NAT: A precise definition of GDP

14. *T* or *F*. You sell your unused calculus book to your friend. This transaction, in most cases, will not count in GDP.

ANS: T   PTS: 1   DIF: moderate
NAT: A precise definition of GDP

15. *T* or *F*. If you own and operate an antique store, this does not raise GDP because you are buying and selling goods that are not newly produced.

ANS: F   PTS: 1   DIF: moderate
NAT: A precise definition of GDP

16. *T* or *F*. You buy a new bed that was produced last year. GDP will increase this year by the value of the bed because the bed was sold this year.

ANS: F   PTS: 1   DIF: moderate
NAT: A precise definition of GDP

Exhibit 3.1

	Amount Produced	Price per Unit
Computers	10	$1,000
Movies	100	$10

17. Exhibit 3.1 summarises a certain economy's final output. According to this table, GDP equals
    a. $110.
    b. $1,100.
    c. $1,010.
    d. $11,000.
    e. GDP cannot be computed with the given information.

    ANS: D   PTS: 1   DIF: basic
    NAT: How to add different goods together

18. In a simple economy, Wanda's Weavers grows cotton and weaves it into cloth. In the current year, Wanda's Weavers produces cloth valued at $1,000, half of which it sells directly to consumers for their own personal use and half of which it sells to Joe's T-shirts. Joe's T-shirts produces T-shirts valued at $1,500 for the current year. What is the value of GDP in this simple economy?
    a. $2,500
    b. $1,500
    c. $500
    d. $1,000
    e. $2,000

    ANS: E   PTS: 1   DIF: moderate
    NAT: Intermediate goods versus final goods

Exhibit 3.2

Motherboard	$200
Hard drive	$100
RAM chips	$200
Modem	$100
CD-ROM drive	$200
Misc.	$100

19. Exhibit 3.2 shows the cost of the components used to produce a $1500 computer. The total value of output that would be recorded in GDP is
    a. $600.
    b. $1,800.
    c. $1,500.
    d. $900.
    e. $2,400.

    ANS: C   PTS: 1   DIF: moderate
    NAT: Intermediate goods versus final goods

20. Somebody buys a new motherboard for their computer. For calculating GDP, this is a(n)
    a. economic good.
    b. final good.
    c. intermediate good.
    d. input.
    e. double good.

    ANS: B   PTS: 1   DIF: basic
    NAT: Intermediate goods versus final goods

21. Which of the following is most likely a final good?
    a. wheat

b. crude oil
c. steel
d. cotton
e. a smartphone

ANS: E   PTS: 1   DIF: basic
NAT: Intermediate goods versus final goods

22. If we calculate GDP by adding the dollars of all goods that buyers pay, we make an error as a result of
    a. omitting opportunity costs.
    b. double counting some goods.
    c. missing the spending on some goods.
    d. omitting some measures of well being.
    e. ignoring inflation.

ANS: B   PTS: 1   DIF: moderate
NAT: Intermediate goods versus final goods

23. *T or F*. One trillion is equal to 1 million millions, or 1,000,000,000,000.

ANS: T   PTS: 1   DIF: moderate
NAT: The spending approach to measuring GDP

24. *T or F*. The number of new cars produced in a given time period in the United States is a flow measure, while the number of cars in the United States is a stock measure.

ANS: T   PTS: 1   DIF: basic
NAT: The spending approach to measuring GDP

25. Total spending in the economy is divided into
    a. consumption, investment, government purchases, and exports.
    b. consumption, investment, government expenditures, and exports.
    c. market spending, non-governmental organisation spending, foreign spending, and government spending.
    d. consumption, investment, government expenditures, and net exports.
    e. consumption, investment, government outlays, and net exports.

ANS: D   PTS: 1   DIF: moderate
NAT: The spending approach to measuring GDP

26. Which of the following is the largest share of GDP in high-income economies?
    a. Consumption
    b. Investment by the private sector
    c. Government purchases
    d. Government outlays
    e. Net exports

ANS: A   PTS: 1   DIF: basic
NAT: The spending approach to measuring GDP

27. The largest component of GDP is
    a. government expenditure.
    b. investment.
    c. exports.
    d. consumption.

e. government outlays.

ANS: D   PTS: 1   DIF: moderate
NAT: The spending approach to measuring GDP

28. Australian consumption expenditures include
    a. purchases by households on goods and services produced only in Australia.
    b. purchases of consumer goods produced in Australia by households, businesses, government, and other countries.
    c. purchases of consumer goods produced in Australia and the rest of the world by households, businesses, government, and other countries.
    d. expenditures by households on goods and services produced in Australia and the rest of the world.
    e. the purchase of new homes by households.

ANS: D   PTS: 1   DIF: basic
NAT: The spending approach to measuring GDP

29. In 2010, consumption was roughly _____ of GDP in Australia.
    a. 95 per cent
    b. 88 per cent
    c. 75 per cent
    d. 68 per cent
    e. 55 per cent

ANS: E   PTS: 1   DIF: basic
NAT: The spending approach to measuring GDP

30. Investment (*I*) is
    a. the purchase of final goods by business firms.
    b. the purchase of securities (bond, shares) by business firms.
    c. the purchase of intermediate goods by business firms.
    d. the purchase of final goods by business firms and government.
    e. the purchase of final goods by the government.

ANS: A   PTS: 1   DIF: moderate
NAT: The spending approach to measuring GDP

31. Investment expenditures are the sum of
    a. business fixed investment, residential investment, and financial investment.
    b. business fixed investment and services.
    c. business fixed investment plus financial investments.
    d. business fixed investment plus inventories.
    e. business fixed investment, inventory investment, and residential investment.

ANS: E   PTS: 1   DIF: basic
NAT: The spending approach to measuring GDP

32. Expenditure on _____ is spending that is **not** included in GDP.
    a. used goods
    b. intermediate goods
    c. financial assets
    d. All of these

ANS: D   PTS: 1   DIF: basic
NAT: The spending approach to measuring GDP

33. If a computer dealer has 20 computers at the beginning of the month, receives an additional 35 computers during the month, and sells no computers during the month, the dealer's inventory investment for that month would be
    a. minus 35 computers.
    b. plus 20 computers.
    c. minus 20 computers.
    d. plus 35 computers.
    e. plus 55 computers.

    ANS: D   PTS: 1   DIF: moderate
    NAT: The spending approach to measuring GDP

34. A computer dealer has 20 computers at the beginning of the month and receives an additional 35 computers during the month. If the computer dealer has 15 computers in stock at the end of the month, the dealer's inventory investment for that month would be
    a. minus 15 computers.
    b. plus 5 computers.
    c. minus 5 computers.
    d. plus 15 computers.
    e. plus 35 computers.

    ANS: C   PTS: 1   DIF: challenging
    NAT: The spending approach to measuring GDP

35. Which of the following is a stock variable?
    a. Wealth
    b. Investment
    c. GDP
    d. Savings
    e. Income

    ANS: A   PTS: 1   DIF: basic
    NAT: The spending approach to measuring GDP

36. Investment, as defined in the national accounts, refers to
    a. putting away funds for the future.
    b. purchases of new capital, such as new factories or equipment.
    c. purchases of stocks (shares) and bonds.
    d. consumer purchases of big-ticket (durable) items.
    e. All of these

    ANS: B   PTS: 1   DIF: moderate
    NAT: The spending approach to measuring GDP

37. In which spending category would you enter the following transaction? Ford sells a domestically made car from its inventory to an individual.
    a. Consumption
    b. Consumption and investment
    c. Investment
    d. Government purchases
    e. Intermediate goods

    ANS: B   PTS: 1   DIF: moderate
    NAT: The spending approach to measuring GDP

38. In which spending category would you enter the following transaction? Company A successfully launches a hostile takeover of Company B, in which it purchases all the assets of Company B.
    a. Intermediate purchases
    b. Net exports
    c. Investment
    d. Consumption
    e. None of these

    ANS: E   PTS: 1   DIF: moderate
    NAT: The spending approach to measuring GDP

39. In which spending category would you enter the following transaction? A restaurant purchases fresh fish at the local fish market that it plans to sell as one of its nightly specials.
    a. None of these
    b. Consumption
    c. Government purchases
    d. Investment
    e. Net exports

    ANS: A   PTS: 1   DIF: moderate
    NAT: The spending approach to measuring GDP

40. Suppose that a car dealer had an inventory of 150 cars on 31 December 2008, got 35 new cars shipped from the factory during 2009, and sold 20 cars to consumers during the year, making the dealer's inventory equal to 165 cars on 31 December 2009. What was the contribution of the car dealer to inventory investment for 2009?
    a. 165 cars
    b. 35 cars
    c. 15 cars
    d. None of these

    ANS: C   PTS: 1   DIF: challenging
    NAT: The spending approach to measuring GDP

41. In 2010, the United States imported more than it exported. As a result,
    a. the sum of consumption plus investment plus government purchases overstated what was produced in America.
    b. the sum of consumption plus investment plus government purchases understated what was produced in America.
    c. the sum of consumption plus investment plus government purchases equalled what was produced in America.
    d. the sum of consumption minus investment minus government purchases overstated what was produced in America.

    ANS: A   PTS: 1   DIF: challenging
    NAT: The spending approach to measuring GDP

42. Which of the following statements is *true*?
    a. Inventory investment is the only component of investment spending that is not included in business fixed investment.
    b. Total residential investment is the only component of investment spending that is not included in business fixed investment.
    c. Investment spending is the same as business fixed investment.
    d. Inventory investment and residential investment are not part of business fixed investment.

e. Purchases of intermediate goods by businesses are included in business fixed investment.

ANS: D   PTS: 1   DIF: basic
NAT: The spending approach to measuring GDP

43. Government purchases (expenditures) are defined as
   a. purchases of goods and services by the federal government.
   b. purchases of new goods and services and transfer payments by the federal government.
   c. purchases of new goods and services and transfer payments by federal, state, and local governments.
   d. purchases of new goods and services by federal, state, and local governments.
   e. purchases of goods and services by federal and foreign governments.

ANS: D   PTS: 1   DIF: basic
NAT: The spending approach to measuring GDP

44. Transfer payments
   a. are excluded from GDP but included in government expenditure.
   b. are excluded from government expenditure and GDP.
   c. are included in government expenditure and in GDP.
   d. are excluded from government expenditure but included in GDP.
   e. are included in government expenditure but excluded from GDP.

ANS: B   PTS: 1   DIF: moderate
NAT: The spending approach to measuring GDP

45. Net exports are
   a. the sum of exports and imports.
   b. the difference between exports and imports.
   c. exports net of tariffs and taxes.
   d. imports less exports.
   e. exports net of depreciation.

ANS: B   PTS: 1   DIF: basic
NAT: The spending approach to measuring GDP

46. Which of the following best explains what happens when an Australian business purchases a drill press manufactured in Germany?
   a. There will be an increase in exports.
   b. There will be an increase in import spending.
   c. There will be an increase in investment expenditures.
   d. There will be an increase in both investment expenditures and import spending.
   e. There will be a decline in investment expenditures and an increase in import spending.

ANS: D   PTS: 1   DIF: moderate
NAT: The spending approach to measuring GDP

47. If an Australian winery sells wine to a restaurant in Paris, it will cause an increase in Australia's
   a. net exports.
   b. imports.
   c. both investment and net exports.
   d. government expenditures.
   e. consumption.

ANS: A   PTS: 1   DIF: moderate
NAT: The spending approach to measuring GDP

48. In which spending category would you enter the following transaction if you were trying to calculate US GDP? 'People in France flock to see the latest Brad Pitt movie that was produced in Hollywood.'
   a. Net exports
   b. Consumption
   c. Investment
   d. Government purchases
   e. Wasteful purchases

   ANS: A   PTS: 1   DIF: moderate
   NAT: The spending approach to measuring GDP

49. For a hypothetical economy in a given year, consumption equalled $20, investment equalled $16, government purchases equalled $14, goods exported equalled $15, and goods imported equalled $18. What was the value of GDP?
   a. $83
   b. $65
   c. $47
   d. $50
   e. $53

   ANS: C   PTS: 1   DIF: moderate
   NAT: The spending approach to measuring GDP

50. For a hypothetical economy in a given year, GDP equalled $1,171, consumption equalled $482, investment equalled $286, goods exported equalled $198, and goods imported equalled $57. What did government spending equal?
   a. $403
   b. Not enough information is given.
   c. $544
   d. $262
   e. $148

   ANS: D   PTS: 1   DIF: moderate
   NAT: The spending approach to measuring GDP

51. *T* or *F*. You buy a shirt made in another country. This causes consumption spending to increase by the value of the shirt, import spending to increase by the value of the shirt, and hence GDP to increase.

   ANS: F   PTS: 1   DIF: moderate
   NAT: The spending approach to measuring GDP

52. *T* or *F*. When you buy some stock (shares) in a firm, it is investment expenditure that counts toward GDP.

   ANS: F   PTS: 1   DIF: moderate
   NAT: Measuring the economy

53. *T* or *F*. Intermediate goods that go directly into a manufactured product are counted as investment.

   ANS: F   PTS: 1   DIF: moderate
   NAT: The spending approach to measuring GDP

54. *T* or *F*. You buy a new bed that was produced last year. This causes consumption expenditure to increase for this year and investment expenditure to decrease by roughly the same amount.

ANS: T   PTS: 1   DIF: moderate
NAT: The spending approach to measuring GDP

55. *T* or *F*. New homes purchased by households are part of investment expenditures.

ANS: T   PTS: 1   DIF: moderate
NAT: The spending approach to measuring GDP

56. *T* or *F*. If inventories increase in a given year, they should be added in when calculating GDP.

ANS: T   PTS: 1   DIF: basic
NAT: The spending approach to measuring GDP

57. *T* or *F*. In 2010, the United States imported more than it exported; therefore, the sum of consumption plus investment plus government purchases overstated what was produced in America.

ANS: T   PTS: 1   DIF: moderate
NAT: The spending approach to measuring GDP

58. *T* or *F*. Social security payments (pensions etc.) are included in government expenditure (*G*).

ANS: F   PTS: 1   DIF: basic
NAT: The spending approach to measuring GDP

59. *T* or *F*. When there is a trade deficit, as a share of GDP, the sum of consumption, investment, and government purchases will be greater than 100 per cent.

ANS: T   PTS: 1   DIF: moderate
NAT: The spending approach to measuring GDP

60. *T* or *F*. Other things being equal, a decline in imports will be associated with an increase in GDP.

ANS: T   PTS: 1   DIF: moderate
NAT: The spending approach to measuring GDP

61. Which of the following statements is *true*?
    a. Investment expenditures included in the spending approach to GDP are equal to net investment.
    b. There is not much difference in reality between gross and net investment in Australia.
    c. Net investment is usually larger than gross investment.
    d. Net investment is much lower than gross investment.
    e. None of these

ANS: D   PTS: 1   DIF: basic
NAT: The spending approach to measuring GDP

62. In calculating GDP as income, which of the following best describes what net investment is?
    a. A measure of how much new investment there is each year after depreciation is added
    b. A measure of how much new investment there is each year after depreciation has been subtracted
    c. A measure of how much new investment there is each year after the appropriate taxes and net exports are subtracted
    d. None of these is remotely related to a correct definition of net investment

e.   A measure of how much new investment there is each year after imported investment goods are subtracted

ANS: B   PTS: 1   DIF: moderate
NAT: The spending approach to measuring GDP

63. *T or F*. If net exports are negative, spending by households, firms, and government must be greater than the income people earn in producing GDP.

ANS: T   PTS: 1   DIF: moderate
NAT: The spending approach to measuring GDP

64. *T or F*. The difference between investment, the purchases of final goods by firms, and depreciation is called net investment.

ANS: T   PTS: 1   DIF: basic
NAT: The spending approach to measuring GDP

65. Explain how each of the following transactions would count in GDP for the current year. Which spending categories are affected?
   a.   Ford has 10,000 newly produced cars left over at the end of the year and adds them to its inventory.
   b.   The Queensland government repaves the Bruce Highway.
   c.   The federal government decides to increase welfare payments.
   d.   You go to Mexico for a vacation.

   ANS:
   a.   The 10,000 cars are added to inventory investment, and GDP increases by the value of the 10,000 cars.
   b.   This is a government expenditure on a new good, so GDP will increase by the cost of the repaving.
   c.   This is a transfer payment that does not count in GDP.
   d.   This counts as consumption spending and import spending. Whatever you spend in Mexico does not count toward Australia's GDP; it contributes to Mexico's.

   PTS: 1   DIF: moderate   NAT: Measuring the economy

66. Two components of investment expenditures are new homes purchased by consumers and increases in inventories. Explain why these two components are included in investment expenditures when calculating GDP using the spending approach.

   ANS:
   For inventories, the important point is that GDP is a measure of production. As soon as something is manufactured, it should be included in GDP. However, it might take a while before the product is purchased. This item is classified as inventory investment in order to include it as output.

   The purchase by consumers of newly built homes is classified as investment because a house produces services over many years.

   PTS: 1   DIF: moderate   NAT: The spending approach to measuring GDP

67.
   a.   How does gross investment compare with investment spending as calculated by the spending approach?

b. How does net investment differ from gross investment? Is there a significant difference between gross and net investment?

ANS:
a. Gross investment is the same as the investment-spending amount calculated using the spending approach. It is the purchase of final goods by firms (and new homes by consumers).
b. Net investment is gross investment less depreciation. Depreciation is the amount of spending required to replace worn-out plants and equipment in order to maintain capacity. Net investment only includes spending that adds to existing capacity. There is a big difference between net and gross investment. Net investment is approximately 25 per cent of gross investment.

PTS: 1   DIF: moderate   NAT: The spending approach to measuring GDP

68. For the hypothetical economy described in the table below, what were investment, consumption, and GDP in period 1 and for period 2?

	Period 1	Period 2
New shipment of computers to dealers	10	0
Consumer purchases of computers	0	10

ANS:
Period 1 investment was 10 computers, and there was no consumption. GDP was 10 computers.

In period 2, consumption equalled 10 computers while inventory investment was a negative 10 computers. GDP in this period was zero.

PTS: 1   DIF: moderate   NAT: The spending approach to measuring GDP

69. Determine in which spending category, if any, each of the following transactions would be recorded.
   a. Ford sells a car from its inventory.
   b. Ford sells a car that it produced this year to the state government.
   c. The city of Canberra purchases computer paper for its employees from a local firm.
   d. A business in Canberra purchases computer paper for its employees from a local firm.
   e. Your grandmother wins $10 million in the lottery.
   f. You purchase a newly constructed house.

ANS:
   a. Inventory investment will fall, and one of the other spending categories will rise by a similar amount depending on who purchased the car. If a consumer purchased the car, consumption would rise.
   b. Government purchases will rise.
   c. Government purchases will rise.
   d. This is an intermediate good, so it does not directly affect any spending category.
   e. This does not count in GDP, so no spending category is affected. This is a transfer of wealth between the people who bought the lottery tickets and the grandmother who won.
   f. This is residential investment, which is part of investment.

PTS: 1   DIF: moderate   NAT: The spending approach to measuring GDP

70. Consider the following two scenarios for monthly inventories and sales for a company producing cereal. In both scenarios, the company's sales are the same.

Scenario A

Month	Start-of the-month inventory stock	Production	Sales	Inventory investment
Jun.	40	100	90	
Jul.		100	100	
Aug.	———	100	110	———
Sep.		100	95	
Oct.	———	100	120	———

Scenario B

Month	Start-of the-month inventory stock	Production	Sales	Inventory investment
Jun.	40	90	90	
Jul.		100	100	
Aug.	———	110	110	———
Sep.		100	95	
Oct.	———	115	120	———

In scenario A, the company maintains production at a constant level. In scenario B, the company adjusts production from month to month to try to match sales.

a. Calculate the inventory investment in each month and resulting stock of inventory at the beginning of the following month for both scenarios.

b. How does maintaining constant production affect the stock of inventory? Explain.

ANS:

a.

Scenario A

Month	Start-of the-month inventory stock	Production	Sales	Inventory investment
Jun.	40	100	90	10
Jul.	50	100	100	0
Aug.	50	100	110	-10
Sep.	40	100	95	5
Oct.	45	100	120	-20

Scenario B

Month	Start-of the-month inventory stock	Production	Sales	Inventory investment
Jun.	40	90	90	0
Jul.	40	100	100	0
Aug.	40	110	110	0
Sep.	40	100	95	5
Oct.	45	115	120	-5

b.   Constant production causes inventories to vary more because production does not match sales on a monthly basis. In scenario *B*, the company tries to predict sales and adjust production accordingly. Note that it is not always possible to exactly predict sales.

PTS: 1   DIF: moderate   NAT: The spending approach to measuring GDP

71. For the economy described in the table below, what do net exports equal?

GDP Expenditures	
Consumption	$840
Investment	$650
Government purchases	$520
Exports	$380
GDP	$1,950

ANS:
To calculate the value of net exports, the amount of import spending has to be calculated. The total value of import spending is the sum of consumption, investment, government purchases, and export revenues less GDP. According to the table, this is equal to $2,390 − $1,950 = $440. Net exports equal $380 − $440 or −$60.

PTS: 1   DIF: challenging   NAT: The spending approach to measuring GDP

72. The concept of value added refers to
   a.   the amount paid in the final sale of a product or service.
   b.   the amount subtracted from the value of resources because of depreciation.
   c.   the amount subtracted from the value of goods because of inflation.
   d.   the increase in the value of a product that occurs at each stage of production.
   e.   the total value of all intermediate goods used in the production of the final good.

ANS: D   PTS: 1   DIF: basic
NAT: The production approach to measuring GDP

73. Value added can be determined by
   a.   subtracting the cost of the intermediate goods from the price of the product at each stage of production.
   b.   adding the income of all consumers during the year.
   c.   summing the market values of all intermediate goods.
   d.   calculating the percentage change in GDP from one year to the next.
   e.   dividing GDP by the GDP price deflator.

ANS: A   PTS: 1   DIF: moderate
NAT: The production approach to measuring GDP

Exhibit 3.3

Value Added	
Production Stage	**Sales Value**
Farmer sells wheat	$.50
Miller sells flour	$.75
Baker sells bread (wholesale)	$1.25
Grocer sells bread (retail)	$2.0

74. According to the data in Exhibit 3.3, the value added by the grocer is
    a. $1.25.
    b. $4.50.
    c. $0.75.
    d. $2.00.
    e. $0.50.

ANS: C   PTS: 1   DIF: moderate
NAT: The production approach to measuring GDP

75. The total value added in Exhibit 3.3 is the same as
    a. the retail value of the loaf of bread minus the wholesale value of the bread.
    b. the wholesale value of the loaf of bread plus the final market value of the bread.
    c. the final retail price of the loaf of bread.
    d. the sum of all sales transactions.
    e. the value of the wheat before the miller turned it into flour.

ANS: C   PTS: 1   DIF: moderate
NAT: The production approach to measuring GDP

76. According to the data in Exhibit 3.3, the contribution to GDP from the production of a loaf of bread is
    a. $2.00.
    b. $4.50.
    c. $1.25.
    d. $0.75.
    e. $0.50.

ANS: A   PTS: 1   DIF: challenging
NAT: The production approach to measuring GDP

77. *T* or *F*. To measure GDP using the production approach, it is necessary to add up the total value of the new goods and services produced in the economy for the given time period.

ANS: F   PTS: 1   DIF: basic
NAT: The production approach to measuring GDP

78. *T* or *F*. When computing GDP using the production approach, one must count only the value *added* by each business, as opposed to the total value of output *produced* by each business, in order to avoid double counting.

ANS: T   PTS: 1   DIF: basic
NAT: The production approach to measuring GDP

79. *T* or *F*. Intermediate goods are part of final goods.

    ANS: T   PTS: 1   DIF: basic
    NAT: The production approach to measuring GDP

80. A soft-drink bottling company supplies six-packs of orange lemonade to retailers for $2 each. If the components in each six-pack cost the bottling company $1.50, how much value added per six-pack does the bottling company create?

    ANS:
    $0.50

    Value added is the value of the bottling firm's output less the value of the intermediate goods it used to produce the six-pack. In this case it is $2.00 − $1.50 = $0.50.

    PTS: 1   DIF: moderate   NAT: The production approach to measuring GDP

81. Answer the questions below:
    a.   What is GDP?
    b.   How are the different goods and services that make up GDP added together? Why is this the case?
    c.   A problem that arises when measuring GDP is that some goods are composed of other goods. What type of problem can this create when measuring GDP, and how is it avoided?

    ANS:
    a.   GDP is a measure of the value of all goods and services newly produced in a country during a given period of time.
    b.   GDP is a weighted average of the goods and services produced, where the weights are the prices of these goods and services. Since these prices reflect the cost and value of those goods or services, the goods and services included in GDP are weighted according to their cost or value to society.
    c.   The problem is double counting, and it is avoided by counting only final goods and not counting intermediate goods.

    PTS: 1   DIF: moderate   NAT: The production approach to measuring GDP

82. In 2010, the labour income share of Australia's total income was equal to about __ per cent.
    a. 43
    b. 53
    c. 63
    d. 73
    e. 83

    ANS: B   PTS: 1   DIF: challenging
    NAT: The income approach to measuring GDP

83. Which of the following statements is *true*?
    a. Rental payments are part of depreciation.
    b. Rental payments are part of labour income.
    c. Interest payments are part of depreciation.
    d. Profits are part of labour income.
    e. Rental payments are part of capital income.

ANS: E   PTS: 1   DIF: moderate
NAT: The income approach to measuring GDP

84. Which of the following statements is *false*?
   a. Capital income is made up of profits, rental payments, and interest payments.
   b. Labour income is made up of wages, salaries, and fringe benefits.
   c. For purposes of measuring GDP, only net investment is counted.
   d. Labour income is greater than half of GDP.
   e. Net investment is the difference between gross investment and depreciation.

ANS: C   PTS: 1   DIF: moderate
NAT: The income approach to measuring GDP

85.   *T* or *F*. GDP can be measured by adding up all the income people earn by producing new final goods
      and services.

ANS: T   PTS: 1   DIF: basic
NAT: The income approach to measuring GDP

86. Consider the case of a hypothetical economy that has no government or foreign trade. This economy
     produces one final product, books. Moreover, there are only two stages of production, writing by
     authors and publishing by a single publishing company, Inco. In 2010, Inco produced $4 million worth
     of books, and consumers purchased $3 million of those books.
   a.   In 2010, for this economy, how much were *C* and *I*? How much was GDP? In 2010, Inco
           paid $500,000 to its workers, $200,000 in interest to its creditors, $300,000 for rent, and
           $2 million to its authors.
   b.   How much were Inco's profits in 2010?
   c.   How much value added was produced by the authors in 2010? How much value added
           was produced by Inco? What was the total value added produced in the economy that
           year?

   ANS:
   a.   *C* = $3 million, *I* = $1 million (inventory), GDP = $4 million.
   b.   Profits = $4 million − $.5 million − $.2 million − $.3 million − $.2 million = $1 million.
   c.   Value added by authors = $2 million.
           Value added produced by Inco = $4 million − $2 million = $2 million.
           Total value added produced was $2 million (value added produced by authors) + $2
           million (value added produced by Inco) = $4 million.

   PTS: 1   DIF: challenging   NAT: Measuring GDP

87. Assume a simple economy with no government and no foreign trade. The firm produces 100 units of
     output, sells 80 to consumers for a price of $1, and adds the remaining 20 to its inventory at a price of
     $0.75. Each unit costs $0.75 to produce, which is equal to the labour cost. There are no other costs
     associated with production.
   a.   Name three ways you could measure GDP from these data.
   b.   Show how you would perform each calculation.

   ANS:
   a.   GDP can be measured using the spending, income, or production approach.
   b.   For the spending approach, $Y = C + I = 80 \times \$1 + 20 \times \$0.75 = \$95$.
           For the income approach, income = labour income plus profit = $\$0.75 \times 100 + \$0.25 \times$
           $80 = \$95$.

For the production approach, the value of the output is $95.

PTS: 1   DIF: challenging   NAT: Measuring GDP

88. Suppose you are given the following information about Country A:

Item	Dollars
Consumption expenditure	700,000
Taxes	400,000
Transfer payments	100,000
Investment	350,000
Government purchases	250,000
Exports	350,000
Imports	300,000

a.   Calculate Country A's GDP.
b.   Which of the three approaches did you use to calculate GDP? Explain what information
     you would need to calculate GDP using the other two approaches.

ANS:
a.   GDP $= C + I + G + EX - IM$
          $= 700,000 + 350,000 + 250,000 + 350,000 - 300,000$
          $= 1,350,000$
b.   The spending approach was used. To use the production approach, you would need to
     add up the value added in the production of each new good and service. To use the
     income approach, you would need data on the different types of income earned (such as
     labour income and capital income) in the production of the new goods and services.

PTS: 1   DIF: moderate   NAT: Measuring GDP

89. Use the following data for an ice-cream vendor at a local fair:

Revenue:	$1,800
Costs:	
Wages and salaries	$350
Concession stand fee	$300
Rental fee for truck	$100
Ice cream	$850

a.   Calculate the vendor's value added.
b.   Profits are revenue minus costs. Capital income consists of profits, rents, and interest.
     Show that the value added equals capital income plus labour income paid by the vendor.
c.   Suppose that at a similar fair, the temperature is cooler and revenues fall to $1,500, but
     the prices of intermediate inputs, rental fees, and wages and salaries do not change. What
     happens to value added and profits in this case?

ANS:
a.   Value added is the value of the vender's output less the value of the intermediate goods.
     In this case it is revenue less the amount the vender had to pay for the ice cream: $1,800
     − $850 = $950.
b.   In this example profits = revenue − costs = $1,800 − $1,600 = $200.
     Rent = concession stand fee + truck rental fee = $300 + $100 = $400.

Capital income = profits + rent = $200 + $400 = $600.
Value added = capital income + wages and salaries = $600 + $350 = $950.

c. Value added falls to $650. Profit income is −$100.

90. Suppose that the following data explain the economic activity in a country in the year 2010.

Component of Spending	Value in billions of dollars
Consumption	174
Business fixed and residential investment	40
Inventory stock at the end of 1999	10
Inventory stock at the end of 2000	15
Depreciation	18
Government outlays	90
Government purchases	75
Total government tax receipts	100
Exports	21
Imports	30
Labor income	150
Capital Income	90
Net income of foreigners	10
Sales taxes	30

Given these data, calculate the following:
a. Inventory investment
b. Net exports
c. Gross domestic product
d. Statistical discrepancy
e. Government saving

ANS:
a. Inventory investment is $5 billion.

b. Net exports are −$9 billion ($21 billion − $30 billion).

c. Using the spending approach:
GDP = consumption + business fixed and residential investment + inventory investment + government purchases + exports − imports = 174 + 40 + 5 + 75 + 21 − 30 = $285 billion.

Using the income approach:
GDP = labour income + capital income + depreciation + indirect business taxes + net income of foreigners = 150 + 90 + 18 + 30 + 10 = $298 billion.

d. Statistical discrepancy = GDP using the income approach − GDP using the spending approach = $13 billion.

e. Government saving = government receipts − government outlays = 100 − 90 = $10 billion.

91. Government saving equals
    a. government expenditure plus transfer payments less taxes.
    b. taxes less government outlays.
    c. transfer payments.
    d. Taxes.
    e. government purchases of goods and services less taxes.

    ANS: B   PTS: 1   DIF: basic
    NAT: The circular flow of income and expenditure revisited

92. The four-sector circular flow model shows that
    a. domestic saving, taxes and imports are leakages from the circular flow.
    b. households, firms, government and the rest of the world are connected.
    c. flows of expenditure, income and production connect the domestic and international economies.
    d. Exports, government spending and investment are injections into the domestic circular flow.
    e. All of these.

    ANS: E   PTS: 1   DIF: moderate
    NAT: The circular flow of income and expenditure revisited

93. When there is inflation, the reliability of changes in GDP as an indicator of changes in production
    a. improves.
    b. is not affected.
    c. declines.
    d. is not affected, unless the change in prices is extreme.
    e. None of these

    ANS: C   PTS: 1   DIF: moderate
    NAT: Real GDP and nominal GDP

94. A measure of production that corrects for inflation is
    a. real GDP.
    b. nominal GDP.
    c. value added.
    d. the CPI.
    e. the GDP price deflator.

    ANS: A   PTS: 1   DIF: basic
    NAT: Real GDP and nominal GDP

95. A measure of production that does not correct for inflation is
    a. real GDP.
    b. nominal GDP.
    c. value added.
    d. the CPI.
    e. the GDP price deflator.

    ANS: B   PTS: 1   DIF: basic
    NAT: Real GDP and nominal GDP

96. *T* or *F*. A rise in nominal GDP indicates that output has increased.

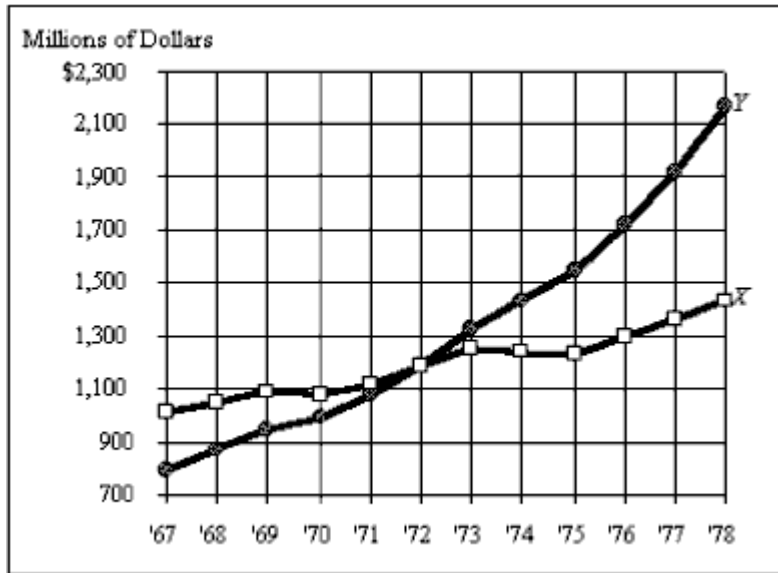   ANS: F   PTS: 1   DIF: basic

97. *T or F*. Nominal GDP must always grow faster than real GDP.

ANS: F   PTS: 1   DIF: moderate
NAT: Real GDP and nominal GDP

98. The figure below shows real and nominal GDP for a hypothetical economy between 1967 and 1978.
Assume this economy had the same inflationary experience as the US did over this period.

a.   What year is the base year?
b.   Which series is real GDP?
c.   Prior to the base year, is real GDP greater than or less than nominal GDP? Why?

ANS:
a.   1972
b.   *X* is real GDP.
c.   Prior to the base year, real GDP is greater than nominal GDP. This is because the 1972
      prices used to calculate real GDP are higher than the pre-1972 prices used to calculate
      nominal GDP.

PTS: 1   DIF: challenging   NAT: Real GDP versus nominal GDP over time

99. Underlying inflation
a.   includes 'once-off' changes in prices, such as when droughts and floods affect food prices.
b.   is a more volatile measure of inflation than the unadjusted CPI.
c.   immediately reflects a higher price of oil.
d.   includes asset prices, such as shares.
e.   None of these.

ANS: E   PTS: 1   DIF: moderate
NAT: Real GDP and nominal GDP

100. *T or F*. In the base year, nominal and real GDP are equal.

ANS: T   PTS: 1   DIF: basic
NAT: Real GDP and nominal GDP

101. The CPI is a measure of
   a. the price of all goods and services included in GDP.
   b. the price of final goods sold by producers.
   c. the price of consumer goods and services.
   d. the price of raw materials and intermediate goods.
   e. the price of domestically produced goods and services.

   ANS: C   PTS: 1   DIF: basic
   NAT: Real GDP and nominal GDP

102. Which of the following statements is *true*?
   a. The CPI is based on a fixed quantity of goods and services in the base year.
   b. The CPI measures the price of all goods and services included in GDP.
   c. Services are excluded from the CPI.
   d. The CPI is a by-product of computing GDP.
   e. The CPI does not hold the quantity of goods and services constant when computing the price level.

   ANS: A   PTS: 1   DIF: moderate
   NAT: Real GDP and nominal GDP

103. Suppose that real GDP grew more slowly than nominal GDP between year 1 and year 2. What must have happened to prices on average?

   ANS:
   Prices must have increased. Since nominal GDP is calculated using current output and current prices, and real GDP is calculated using constant prices and current output, the difference between the two is in the prices.

   PTS: 1   DIF: moderate   NAT: Real GDP and nominal GDP

104. Suppose that real GDP grew faster than nominal GDP between year 1 and year 2. What must have happened to prices on average?

   ANS:
   Prices must have decreased. Since nominal GDP is calculated using current output and current prices and real GDP is calculated using constant prices and current output, the difference between the two is in the prices.

   PTS: 1   DIF: moderate   NAT: Real GDP and nominal GDP

Exhibit 3.4

	2010		2011	
	Price	Quantity	Price	Quantity
Bananas	2	100	4	125
Sunscreen	5	60	4	75

105. According to the data in Exhibit 3.4, nominal GDP in 2010 equalled
   a. $500.
   b. $625.
   c. $640.

d. $800.

e. $900.

ANS: A   PTS: 1   DIF: moderate

NAT: Converting nominal GDP to real GDP

106. According to the data in Exhibit 3.4, nominal GDP in 2011 equalled
   a. $500.
   b. $800.
   c. $640.
   d. $625.
   e. $1,000.

ANS: B   PTS: 1   DIF: moderate

NAT: Converting nominal GDP to real GDP

107. Using 2010 prices, according to the data in Exhibit 3.4, production in 2011 equalled
   a. $1,000.
   b. $625.
   c. $500.
   d. $800.
   e. $640.

ANS: B   PTS: 1   DIF: challenging

NAT: Converting nominal GDP to real GDP

108. Using 2011 prices, according to the data in Exhibit 3.4, production in 2010 equalled
   a. $1,000.
   b. $500.
   c. $800.
   d. $625.
   e. $640.

ANS: E   PTS: 1   DIF: challenging

NAT: Converting nominal GDP to real GDP

109. If prices were kept constant at 2010 levels, then according to the data in Exhibit 3.4, production between 2010 and 2011 changed by
   a. 20 per cent.
   b. 28 per cent.
   c. 25 per cent.
   d. 60 per cent.
   e. 30 per cent.

ANS: C   PTS: 1   DIF: challenging

NAT: Converting nominal GDP to real GDP

110. If prices were kept constant at 2011 levels, then according to the data in Exhibit 3.4, production between 2010 and 2011 changed by
   a. 25 per cent.
   b. 60 per cent.
   c. 28 per cent.
   d. 20 per cent.
   e. 30 per cent.

ANS: B   PTS: 1   DIF: challenging

NAT: Converting nominal GDP to real GDP

111. According to the data in Exhibit 3.4, the increase in real GDP from 2010 to 2011 was
    a. 22.5 per cent.
    b. 25 per cent.
    c. 40 per cent
    d. 24 per cent.
    e. 30 per cent.

    ANS: B   PTS: 1   DIF: challenging
    NAT: Converting nominal GDP to real GDP

112. In a hypothetical economy, a market basket consists of one stereo and two TVs. In the base year, 2005, the price of a TV was $200, and the price of a stereo was $500. In 2010, the price of a TV was $380, and the price of a stereo was $750. The CPI for 2010 was
    a. 1.00.
    b. CPI cannot be calculated with the given information.
    c. 2.00.
    d. 1.68.
    e. 1.63.

    ANS: D   PTS: 1   DIF: moderate
    NAT: Alternative inflation measures

Exhibit 3.5

Item	2005 Quantity	2005 Price	2010 Price
Movie tickets	4	$5.00	$7.50
Bags of popcorn	2	$3.00	$3.00
Cans of soda	4	$1.00	$1.50

113. The information in Exhibit 3.5 gives the 2005 base period market basket and prices used to construct the CPI for a small nation. It also has the 2010 prices. What is the value of the CPI for the base period 2005?
    a. 1.33
    b. 1.00
    c. 0.71
    d. 1.40
    e. 1.25

    ANS: B   PTS: 1   DIF: moderate
    NAT: Alternative inflation measures

114. The information in Exhibit 3.5 gives the 2005 base period market basket and prices used to construct the CPI for a small nation. It also has the 2010 prices. What is the value of the CPI for the period 2010?
    a. 1.00
    b. 1.40
    c. 1.33
    d. 0.71
    e. 1.25

    ANS: B   PTS: 1   DIF: moderate
    NAT: Alternative inflation measures

115. If a parent spends two hours each weekday transporting his or her children to school, this activity

a. is not included in GDP because it is not productive.
b. could be included in GDP if the parent reports this activity in his or her income taxes.
c. is not included in GDP because it does not involve a market transaction.
d. is included in GDP because statisticians know that this activity has to take place.
e. is included in GDP if the school system does not provide transportation for these children.

ANS: C   PTS: 1   DIF: moderate
NAT: Shortcomings of the GDP measure

116. The consumption of leisure
a. is always omitted from GDP.
b. is always included in GDP.
c. is included in GDP if it involves productive activity.
d. is omitted from GDP if the activity has no social use.
e. is included in GDP if it involves a market transaction.

ANS: E   PTS: 1   DIF: basic
NAT: Shortcomings of the GDP measure

117. *T* or *F*. GDP is unaffected by changes in the quality of a good or service.

ANS: F   PTS: 1   DIF: moderate
NAT: Shortcomings of the GDP measure

118. Which of the following would *not* be captured by a perfect measure of the production of goods and services in the economy?
a. The underground economy
b. Improvements in goods and services
c. A healthy life expectancy
d. Home production
e. None of these

ANS: C   PTS: 1   DIF: basic
NAT: Shortcomings of the GDP measure

119.
a. If a parent has to take the afternoon off from work to pick up his or her children from school and transport them to a friend's house, what happens to GDP?
b. If the parent hires a nanny to pick the children up and transport them to a friend's house, what will happen to GDP?
c. Are your answers to (a) and (b) the same? Explain.

ANS:
a. GDP will not increase because child transportation in this case does not involve a market transaction. In fact, it is likely that GDP will decline because the parent took time off from work.
b. GDP will increase because hiring the nanny to do the transportation involves a market transaction.
c. The two answers differ because when the parent does the transportation there is no market transaction, whereas hiring the nanny does involve a market transaction.

PTS: 1   DIF: moderate   NAT: Shortcomings of the GDP measure

120. Why are revisions of GDP inevitable? Why does it matter?

ANS:
Revisions are inevitable because the data used in computing GDP come from many different sources. Not all of the data are available in a timely fashion. As new data come in, the value for GDP is revised.

Since business and government make decisions based on the state of the economy, an imprecisely reported measure of GDP could lead to a wrong decision.

PTS: 1   DIF: basic   NAT: Shortcomings of the GDP measure

121. Can real GDP per capita serve, by itself, as an adequate measure of individual wellbeing?

ANS:
No. There are parts of wellbeing, such as crime and a clean environment, that cannot be measured by the production of goods and services.

PTS: 1   DIF: basic   NAT: Shortcomings of the GDP measure

122. Answer true or false and explain.
   a.   A new technology is discovered that results in all new cars producing 50 per cent less pollution. People are better off because the air they breathe is cleaner, and hence GDP will increase to reflect the fact that people are better off.
   b.   A new technology is discovered that results in all new cars producing 50 per cent less pollution. As a result, there is a reduction in the number of visits people make to the doctor to complain of breathing difficulties. People are better off because they are healthier, and hence GDP will increase to reflect the fact that people are better off.
   c.   A new technology is discovered that results in all new cars producing 50 per cent less pollution. The federal government offers all people owning cars built before 1980 a $1,000 rebate on the purchase of a new car in an attempt to remove polluting cars from the road. One thousand people accept the offer and buy new cars worth $25 million. GDP increases by the value of the cars sold, which is $25 million, and the total amount of the government expenditure on the rebate program, which is $1 million.

   ANS:
   a.   False. While people would be better off because the air is cleaner, there is no direct increase in GDP as a result of the cleaner air since clean air is not a market good.
   b.   False. People are better off because they are healthier, but GDP will not increase as a direct result of the healthier population. In fact, GDP might even decrease because there are fewer doctor visits per year.
   c.   True. GDP will increase by the value of the new cars sold, which is $25 million. The $1 million rebate program expenditure is a transfer payment.

   PTS: 1   DIF: moderate   NAT: Shortcomings of the GDP measure

123. Determine whether each of the following would be included in GDP, and explain why or why not.
   a.   You buy a used car from a friend.
   b.   You buy a used car at the local dealership.
   c.   You are an at-home parent and spend your day cleaning house, cooking meals, and caring for the children.
   d.   You hire a nanny to clean your house, cook your meals, and care for your children.

   ANS:
   a.   This does not count in GDP. Because your friend does not sell cars for a living, there is

no new good or service being provided.

b.   This does count in GDP. The local dealership provides a new service by making used cars available for people to purchase.

c.   This does not count in GDP. This is not a market transaction, and there is no income earned.

d.   This does count in GDP. The nanny will be paid for her services and will presumably report the income and pay taxes.

PTS: 1   DIF: moderate   NAT: Shortcomings of the GDP measure

Toolkit

124. Suppose that real GDP increased 3 per cent from 2009 to 2010 and increased 5 per cent from 2010 to 2011. What was the average increase in real GDP from 2009 to 2011?
  a.   4 per cent
  b.   3.5 per cent
  c.   4.5 per cent
  d.   3 per cent
  e.   5 per cent

ANS: A   PTS: 1   DIF: moderate
NAT: Computing real GDP growth between year

125. A base year is a year when
  a.   real GDP equals 100.
  b.   nominal GDP equals 100.
  c.   real and nominal GDP are equal to each other.
  d.   there is no growth in real GDP.
  e.   there is no growth in nominal GDP.

ANS: C   PTS: 1   DIF: basic
NAT: Converting nominal GDP to real GDP

Exhibit 3.6

	2010		2011	
	Price	**Quantity**	**Price**	**Quantity**
Bananas	2	100	4	125
Sunscreen	5	60	4	75

126. According to the data in Exhibit 3.6, the GDP deflator in 2010 (the base year) was
  a.   1.28.
  b.   1.25.
  c.   1.
  d.   .8.
  e.   1.30.

ANS: C   PTS: 1   DIF: basic
NAT: Computing real GDP growth between years

127. According to the data in Exhibit 3.6, using 2010 as the base year, the GDP price deflator in 1998 was
  a.   8.
  b.   1.25.
  c.   1.28.
  d.   0.78.

e. 1.30.

ANS: C   PTS: 1   DIF: moderate
NAT: Computing real GDP growth between years

128. According to the data in Exhibit 3.6, using 2010 as the base year, prices rose
   a. 25 per cent.
   b. 28 per cent.
   c. 40 per cent.
   d. 3 per cent.
   e. 30 per cent.

ANS: B   PTS: 1   DIF: moderate
NAT: Computing real GDP growth between years

129. If nominal GDP is $5 trillion, and the GDP price deflator is 1.25, what is real GDP?
   a. $0.4 trillion
   b. $6.25 trillion
   c. $625 trillion
   d. $4 trillion
   e. Not enough information is given.

ANS: D   PTS: 1   DIF: moderate
NAT: Computing real GDP growth between years

130. How do the CPI and the GDP deflator differ?

ANS:
The CPI measures the average price of consumer goods and services, while the GDP price deflator pertains to all goods and services included in GDP. Second, the CPI measures the cost of a fixed quantity of goods and services determined during the base year. The GDP deflator is a by-product of computing real GDP.

PTS: 1   DIF: moderate   NAT: Computing real GDP growth between years

Exhibit 3.7

	2010		2011	
	Price	**Quantity**	**Price**	**Quantity**
Stereos	$500	75	$750	100
Television	$200	100	$380	150

131. Suppose an economy's GDP consists only of stereos and televisions. Exhibit 3.7 shows the production of these goods in 2010 and 2011.
   a.   How much was nominal GDP in 2010?
   b.   How much was nominal GDP in 2011?
   c.   If 2010 was the base year, what was real GDP in 2011?
   d.   If 2011 was the base year, what was real GDP in 2010?

ANS:
a.   Nominal GDP in 2010 = $500 × 75 + $200 × 100 = $57,500.

b.   Nominal GDP in 2011 = $750 × 100 + $380 × 150 = $132,000.

c.   Using 2010 prices, GDP in 2011 = $500 × 100 + $200 × 150 = $81,000.

Keeping prices constant at 2010 levels, the increase in GDP between 2010 and 2011 was equal to $\frac{\$81,000}{\$57,550} - 1 = 40.1\%$.

Using 2011 prices, GDP in 2010 = $750 \times 75 + \$380 \times 100 = \$94,250$.

Keeping prices constant at 2011 levels, the increase in GDP between 2010 and 2011 was $\frac{\$132,000}{\$94,250} - 1 = 40\%$.

The rate of growth in real GDP between 2010 and 2011 = $\frac{0.401 + 0.40}{2} = 40\%$.

Because 2010 is the base year, real and nominal GDP in 2011 are the same. Real GDP in 2011 = $(1.40 \times \$57,500) = \$80,500$.

d. Because 2011 is the base year, real and nominal GDP in 2011 are equal. Real GDP in 2010 = $\frac{\$132,000}{1.40} = \$94,286$

PTS: 1   DIF: moderate   NAT: Computing real GDP growth between years

132. According to the economy described in Exhibit 3.7, if 2010 is the base year, what was the GDP deflator in 2011?

ANS:
First, calculate real and nominal GDP in 2011:

Using 2010 prices, GDP in 1994 = $500 \times 100 + \$200 \times 150 = \$81,000$.

Keeping prices constant at 2010 levels, the increase in GDP between 2010 and 2011 was equal to $\frac{\$81,000}{\$57,550} - 1 = 40.1\%$.

Using 2011 prices, GDP in 2010 = $750 \times 75 + \$380 \times 100 = \$94,250$.

Keeping prices constant at 2011 levels, the increase in GDP between 2010 and 2011 was $\frac{\$132,000}{\$94,250} - 1 = 40\%$.

The rate of growth in real GDP between 2010 and 2011 = $\frac{0.401 + 0.40}{2} = 40\%$.

Because 2010 is the base year, real and nominal GDP in 2010 are the same. Real GDP in 2011 = $(1.40 \times \$57,500) = \$80,500$.

Nominal GDP in 2011 = $750 \times 100 + \$380 \times 150 = \$132,000$.

So, the GDP deflator for 2011 was = $\frac{\$132,000}{\$80,500} = 1.64$.

133. Given the information in the table below for three consecutive years in the US economy, calculate the missing data.

Year	Nominal GDP (in billions of U.S. dollars)	Real GDP (in billions of 1992 dollars)	GDP Deflator (1992 = 100)	Inflation (percent change in GDP deflator)	Real GDP per Capita (in 1992 dollars)	Population (in millions)
1993	6,553.0	_____	102.6	2.6	_____	260.7
1994		6,608.7		2.3		263.0
1995	_____	_____	107.6	_____	25,396	265.5

ANS:

Year	Nominal GDP (in billions of U.S. dollars)	Real GDP (in billions of 1992 dollars)	GDP Deflator (1992 = 100)	Inflation (percent change in GDP deflator)	Real GDP per Capita (in 1992 dollars)	Population (in millions)
1993	6,553.0	6,386.9	102.6	2.6	24,499	260.7
1994	6,939.1	6,608.7	105.0	2.3	25,128	263.0
1995	7,255.1	6,742.6	107.6	2.5	25,396	265.5

PTS: 1   DIF: moderate   NAT: Computing real GDP growth between years

134. Suppose there are only three goods in an economy:

Year	Item	Price per unit	Quantity
2009	Tomatoes	$3	1,000
	Squash	$1	600
	Mobile phones	$100	20
2010	Tomatoes	$4.50	900
	Squash	$21	700
	Mobile phones	$125	30

a.   Calculate nominal GDP for 2009 and 2010.
b.   Calculate the percentage change in GDP from 2009 to 2010 using 2009 prices and 2010 prices.
c.   Calculate the percentage change in real GDP from 2009 to 2010 using your answer from (b).
d.   What is the GDP deflator for 2010 if it is equal to 1.0 in 2009?

ANS:
a.   Nominal GDP in 2009 and 2010 are $5,600 and $9,200, respectively.
b.   The percentage change in GDP from 2009 to 2010 using 2009 prices is 14.28 per cent.
     The percentage change in GDP from 2009 to 2010 using 2010 prices is 12.19 per cent.
c.   The percentage change in real GDP is the average of the two answers in part (b), 13.24 per cent.

d.   Real GDP in 2010 is 113.24 per cent of 2009's GDP $(1 + .1324) \times \$5{,}600 = \$6{,}341.44$.
The GDP deflator for 2010 is $\dfrac{9200}{6341.44} = 1.45$.

PTS: 1   DIF: moderate   NAT: Computing real GDP growth between years

135. Which of the following statements is true concerning the GDP deflator and the CPI as measures of inflation?
a. Only the CPI shows the rise in inflation in the 1960s and the 1970s.
b. Inflation, as measured by the GDP deflator, is more volatile than inflation as measured by the CPI.
c. Only the GDP deflator shows the rise in inflation the 1960s and the 1970s.
d. The CPI and the GDP deflator show similar movements in general inflation.
e. Only the GDP deflator shows the decline in inflation in the 1980s and the early 1990s.

ANS: D   PTS: 1   DIF: moderate
NAT: Measuring the economy

136. *T or F*. The chain-weighted price index measures the price of a fixed collection of goods and services, often referred to as a 'market basket', relative to some base year.

ANS: F   PTS: 1   DIF: moderate
NAT: Measuring the economy

137. *T or F*. CPI values are less volatile than the GDP deflator values for the rate of inflation.

ANS: F   PTS: 1   DIF: moderate
NAT: Measuring the economy