MULTIPLE CHOICE

1. Who led the team that created the original National Income and Product Accounts in the 1930s?
    a. John M. Keynes
    b. Paul A. Samuelson
    c. William D. Nordhaus
    d. Simon Kuznets
    e. Milton Friedman

    ANS: D   DIF: Easy   REF: 2.1   TOP: I.
    MSC: Remembering

2. Which measure of overall economic activity was NOT available in the 1930s?
    a. stock prices
    b. GDP
    c. industrial production
    d. steel production
    e. gold prices

    ANS: B   DIF: Easy   REF: 2.1   TOP: I.
    MSC: Understanding

3. The National Income and Product Accounts provides a system for aggregating the production of:
    a. all goods and services into a single measure of economic activity.
    b. all goods into a single measure of economic activity.
    c. all services into a single measure of economic activity.
    d. most goods and services into a single measure of economic activity.
    e. all goods and services into two measures of economic activity.

    ANS: A   DIF: Easy   REF: 2.1   TOP: I.
    MSC: Understanding

4. In 2015, U.S. national output was equal to about:
    a. $17.9 billion.
    b. $17.9 trillion.
    c. $13.1 billion.
    d. $13.1 trillion.
    e. $13.1 million.

    ANS: B   DIF: Easy   REF: 2.2   TOP: II.
    MSC: Remembering

5. In 2015, U.S. national output per person was equal to about:
    a. $15.7 billion.
    b. $43,000.
    c. $56,000.
    d. $12,000.
    e. $80,000.

    ANS: C   DIF: Easy   REF: 2.2   TOP: II.
    MSC: Remembering

6. The National Income and Product Accounts allows us to relate _____ to _____ to _____.
    a. household income; government income; firm income
    b. total output; total spending; inflation
    c. total output; inflation; total income
    d. household income; household expenditure; total output
    e. total output; total spending; total income

ANS: E DIF: Easy REF: 2.2 TOP: II.A.
MSC: Applying

7. The National Income and Product Accounts identity states:
   a. Expenditure = Production + Income.
   b. Production = Expenditure − Income.
   c. Production = Expenditure + Income.
   d. Expenditure = Production − Income.
   e. Production = Expenditure = Income.

ANS: E DIF: Easy REF: 2.2 TOP: II.A.
MSC: Applying

8. The difference between *economic* profits and *normal* profits is that:
   a. normal profits are earnings based on the normal competitive payments to the factors used in production; economic profits are the above-normal returns associated with prices that exceed competitive prices.
   b. economic profits are earnings based on the normal competitive payments to the factors used in production; normal profits are the above-normal returns associated with prices that exceed competitive prices.
   c. normal profits are earnings based on the normal competitive payments to the factors used in production; economic profits are the above-normal returns associated with prices that exceed monopolistic prices.
   d. economic profits are earnings based on the noncompetitive payments to the factors used in production; normal profits are the above-normal returns associated with prices that exceed competitive prices.
   e. None of these answers is correct.

ANS: A DIF: Moderate REF: 2.2 TOP: II.A.
MSC: Understanding

9. Goods that are produced in a different year than they are sold are called:
   a. inventory.
   b. output adjustment.
   c. capital depreciation.
   d. a loss.
   e. net national product.

ANS: A DIF: Moderate REF: 2.2 TOP: II.A.
MSC: Remembering

10. The statistic used by economists to measure the value of economic output is:
    a. the unemployment rate.
    b. GDP.
    c. the CPI.
    d. the GDP deflator.
    e. the federal funds rate.

ANS: B DIF: Easy REF: 2.2 TOP: II.
MSC: Understanding

11. An economy's _____ is/are equal to its _____.
    a. consumption; income
    b. expenditure on goods and services; output
    c. expenditure on goods; expenditure on services
    d. investment; government expenditures
    e. taxes; net exports

ANS: B DIF: Easy REF: 2.2 TOP: II.A.
MSC: Understanding

12. According to the expenditure approach, if Y is GDP, C is consumption, I is investment, G is government purchases, and NX is net exports, the national income identity can be written as:
    a. $Y = C + I + G$.
    b. $Y = C + I + G - NX$.
    c. $Y + C = I + G + NX$.
    d. $Y = (C + I + G)/NX$.
    e. $Y = C + I + G + NX$.

    ANS: E   DIF: Easy   REF: 2.2   TOP: II.B.
    MSC: Remembering

13. According to the expenditure approach, if Y is GDP, C is consumption, I is investment, G is government purchases, and NX is net exports, the national income identity can be written as:
    a. $Y + C - G = I + NX$.
    b. $Y - C = I + G - NX$.
    c. $Y - C - G - I = NX$.
    d. $Y = (C + I + G)/NX$.
    e. $Y = C + I + G$.

    ANS: C   DIF: Easy   REF: 2.2   TOP: II.B.
    MSC: Remembering

14. According to the expenditure approach, if Y is GDP, C is consumption, I is investment, G is government purchases, and NX is net exports, which of the following is the national income identity?
    a. $Y = C + I + G - NX$
    b. $Y = C + I + G + NX$
    c. $Y + C = I + G + NX$
    d. $Y = (C + I + G)/NX$
    e. $Y = C + I + G$

    ANS: B   DIF: Easy   REF: 2.2   TOP: II.B.
    MSC: Remembering

Refer to the following table when answering the following questions.

Table 2.1: U.S. 2010 and 2015 Expenditures ($ billions)

	2010	2015
Personal consumption expenditures	10,202	12,284
Goods	3,363	4,012
Services	6,839	8,272
Gross private domestic investment	2,101	3,057
Fixed investment	2,039	2,963
Nonresidential	1,658	2,311
Residential	381	652
Change in private inventories	62	93
Net exports of goods and services	–513	–522
Exports	1,852	2,264
Imports	2,365	2,786
Government consumption	3,174	3,218
Federal	1,304	1,225
State and local	1,870	1,993

15. Consider Table 2.1. Total GDP in 2010 was about _____ billion.
    a. $16,520
    b. $14,964
    c. $11,790
    d. $36,698
    e. $15,459

    ANS: B   DIF: Moderate   REF: 2.2   TOP: II.B.

MSC: Applying

16. Consider Table 2.1. Total GDP in 2015 was about _____ billion.
    a. $44,609
    b. $18,830
    c. $14,818
    d. $18,037
    e. $20,391

    ANS: D   DIF: Moderate   REF: 2.2   TOP: II.B.
    MSC: Applying

17. Consider Table 2.1. The federal government's share of total GDP in 2010 was about _____ percent, and in 2015 it was _____ percent.
    a. 12; 11
    b. 31; 29
    c. 33; 34
    d. 9; 7
    e. 21; 18

    ANS: D   DIF: Moderate   REF: 2.2   TOP: II.B.
    MSC: Applying

18. Consider Table 2.1. The household's share of total investment in 2010 was about _____ percent, and in 2015 it was _____ percent.
    a. 18; 21
    b. 97; 98
    c. 79; 81
    d. 4; 4
    e. Not enough information is given.

    ANS: A   DIF: Moderate   REF: 2.2   TOP: II.B.
    MSC: Applying

19. Household consumption as a share of GDP _____ and investment's share _____ between 2010 and 2015.
    a. decreased; increased
    b. stayed the same; increased
    c. decreased; stayed the same
    d. increased; decreased
    e. stayed the same; stayed the same

    ANS: B   DIF: Difficult   REF: 2.2   TOP: II.B.
    MSC: Applying

20. Government consumption as a share of GDP _____ and investment's share _____ between 2010 and 2015.
    a. decreased; increased
    b. stayed the same; increased
    c. decreased; stayed the same
    d. increased; decreased
    e. stayed the same; stayed the same

    ANS: A   DIF: Difficult   REF: 2.2   TOP: II.B.
    MSC: Applying

21. In 2015, household expenditures accounted for about _____ percent of total GDP.
    a. 50
    b. 68
    c. 45
    d. 76
    e. 13

    ANS: B   DIF: Easy   REF: 2.2   TOP: II.B.
    MSC: Remembering

22. In 2015, investment expenditures accounted for about _____ percent of total GDP.
    a. 71
    d. 10

b. −3.5   e. 15
c. 17

ANS: C   DIF: Easy   REF: 2.2   TOP: II.B.
MSC: Remembering

23. In 2015, government expenditures accounted for about _____ percent of total GDP.
    a. 5   d. 13
    b. −4   e. 18
    c. 66

    ANS: E   DIF: Easy   REF: 2.2   TOP: II.B.
    MSC: Remembering

24. In 2015, net exports accounted for about _____ percent of total GDP.
    a. −3   d. 100
    b. 13   e. −14
    c. 20

    ANS: A   DIF: Easy   REF: 2.2   TOP: II.B.
    MSC: Remembering

25. Net exports are also called:
    a. capital outflows.   d. foreign aid.
    b. the trade balance.   e. government transfers.
    c. the current account.

    ANS: B   DIF: Easy   REF: 2.2   TOP: II.B.
    MSC: Remembering

26. Using the expenditure approach, government expenditures include:
    a. defense and nondefense federal, state, and local government expenditures.
    b. only nondefense federal government expenditures.
    c. federal government expenditures and transfer payments.
    d. only state and local government expenditures.
    e. residential investment and state and local government expenditures.

    ANS: A   DIF: Moderate   REF: 2.2   TOP: II.B.
    MSC: Understanding

27. In 2015, government transfer payments accounted for about _____ of government spending.
    a. one-half   d. three-fifths
    b. one-third   e. 100 percent
    c. 68 percent

    ANS: A   DIF: Moderate   REF: 2.2   TOP: II.B.
    MSC: Applying

28. Using the expenditure approach, consumption expenditures include household purchases of:
    a. durable and nondurable goods and services.
    b. durable and nondurable goods.
    c. durable and nondurable goods and taxes.
    d. durable and nondurable goods and residences.
    e. nondurable goods.

    ANS: A   DIF: Moderate   REF: 2.2   TOP: II.B.

MSC: Understanding

29. Using the expenditure approach, investment includes:
    a. household residential expenditures.
    b. firm structures, equipment, and inventories.
    c. fixed firm and household structures, equipment, and inventories.
    d. government and firm equipment expenditures.
    e. government defense and firm equipment expenditures.

    ANS: C   DIF: Moderate   REF: 2.2   TOP: II.B.
    MSC: Understanding

30. Which of the following is/are NOT included in the expenditure approach to national income accounting?
    a. transfer payments   d. changes in stock prices
    b. taxes   e. None of these answers is correct.
    c. Social Security

    ANS: E   DIF: Moderate   REF: 2.2   TOP: II.B.
    MSC: Applying

31. Which of the following are included in the expenditure approach to national income accounting?
    a. defense expenditures   d. household service expenditures
    b. firm expenditures on equipment   e. All of these answers are correct.
    c. residential expenditures

    ANS: E   DIF: Moderate   REF: 2.2   TOP: II.B.
    MSC: Applying

32. In 2015, the U.S. GDP was about _____, and _____ was/were the largest share.
    a. $5 trillion; net exports
    b. $22.5 billion; government expenditures
    c. $10.5 trillion; investment
    d. $13.6 billion; consumption
    e. $17.9 trillion; consumption

    ANS: E   DIF: Easy   REF: 2.2   TOP: II.B.
    MSC: Remembering

33. During the 1940s, _____ increased sharply as a percentage of U.S. GDP because of _____.
    a. government expenditure; World War II
    b. residential investment; the war on poverty
    c. nonresidential investment; the space program
    d. durable consumption expenditures; rationing of nondurable goods
    e. transfer payments; the New Deal

    ANS: A   DIF: Easy   REF: 2.2   TOP: II.B.
    MSC: Remembering

34. Which of the following is/are NOT included in the expenditure approach to national income accounting?
    a. software   d. All of these answers are correct.
    b. taxes   e. None of these answers is correct.
    c. defense expenditures

    ANS: B   DIF: Moderate   REF: 2.2   TOP: II.B.

35. U.S. expenditure shares by households, firms, and the government were relatively _____ except during _____.
    a. constant; the 1970s
    b. variable; the Great Depression
    c. constant; World War II
    d. constant; the Vietnam War
    e. variable; the 1990s

    ANS: C   DIF: Moderate   REF: 2.2   TOP: II.C.
    MSC: Understanding

36. Since about _____, U.S. expenditure shares by households, firms, and the government have been relatively _____.
    a. 1939; constant
    b. the Great Depression era; constant
    c. 1950; variable
    d. 1950; constant
    e. 1945; constant

    ANS: D   DIF: Moderate   REF: 2.2   TOP: II.C.
    MSC: Understanding

37. According to the text, the gains in GDP's consumption share have:
    a. caused a rapid decline in inventories.
    b. driven investment below 10 percent.
    c. no impact on net exports.
    d. been at a cost to net exports and government spending.
    e. also pushed up the government expenditure share.

    ANS: D   DIF: Moderate   REF: 2.2   TOP: II.C.
    MSC: Understanding

38. Prior to the late 1970s, the United States _____ about as much as it _____.
    a. exported; consumed
    b. exported; imported
    c. imported; consumed
    d. invested; exported
    e. imported; invested

    ANS: B   DIF: Moderate   REF: 2.2   TOP: II.C.
    MSC: Understanding

39. According to the *income* approach to GDP, the largest percentage of GDP comes from:
    a. indirect business taxes.
    b. firm profits.
    c. compensation to employees.
    d. depreciation of fixed capital.
    e. None of these answers is correct.

    ANS: C   DIF: Easy   REF: 2.2   TOP: II.C.
    MSC: Understanding

Refer to the following table when answering the following questions.

Table 2.2: U.S. 2014–2015 Domestic Income ($ billions)

	2014	2015
Compensation of employees, paid	9,264	9,704
Wages and salaries	7,487	7,866

Supplements to wages and salaries	1,777	1,838
Business taxes	1,210	1,238
Business subsidies	57	57
Net operating surplus	4,489	4,575
Private enterprises	4,509	4,593
Surplus of government enterprises	–20	–19
Depreciation of fixed capital	2,745	2,831

(Source: Bureau of Economic Analysis)

40. Consider Table 2.2. From this data, total GDP in 2014 was about _____ billion.
    a. $13,219
    b. $14,963
    c. $18,527
    d. $17,651
    e. $17,765

    ANS: D   DIF: Moderate   REF: 2.2   TOP: II.C.
    MSC: Applying

41. Consider Table 2.2. From this data, total GDP in 2015 was about _____ billion.
    a. $18,290
    b. $15,516
    c. $19,408
    d. $18,404
    e. $18,347

    ANS: A   DIF: Moderate   REF: 2.2   TOP: II.C.
    MSC: Applying

42. Consider Table 2.2. From this data, total net domestic product in 2014 was about _____ billion.
    a. $14,906
    b. $10,384
    c. $17,651
    d. $9,207
    e. $14,754

    ANS: A   DIF: Difficult   REF: 2.2   TOP: II.C.
    MSC: Applying

43. Consider Table 2.2. From this data, total net domestic product in 2015 was about _____ billion.
    a. $15,366
    b. $10,791
    c. $18,290
    d. $9,648
    e. $15,460

    ANS: E   DIF: Difficult   REF: 2.2   TOP: II.C.
    MSC: Applying

44. Since about 1970, _____ income share of GDP has been _____.
    a. labor's; rising
    b. labor's; the same or falling
    c. profits'; falling
    d. indirect business taxes'; rising
    e. the health sector's; falling

    ANS: B   DIF: Easy   REF: 2.2   TOP: II.C.
    MSC: Remembering

45. In the past 60 years or so, labor's share of GDP in the United States _____.
    a. has been roughly two-thirds.
    b. has been exactly 50 percent.
    c. has been roughly one-third.
    d. has been equal to capital's income share.
    e. has risen sharply.

ANS: A   DIF: Easy   REF: 2.2   TOP: II.C.
MSC: Remembering

46. When the city of Los Angeles hires more police officers, _____ may rise, but it may be due to the _____ associated with crime.
    a. GDP; costs
    b. revenues; costs
    c. taxes; benefits
    d. interest rates; costs
    e. prices; costs

    ANS: A   DIF: Moderate   REF: 2.2   TOP: II.E.
    MSC: Analyzing

47. When a state builds a new penitentiary, _____ rise(s), but that does not imply that _____ improve(s).
    a. income; welfare
    b. GDP; taxes
    c. GDP; transfers
    d. GDP; welfare
    e. taxes; costs

    ANS: D   DIF: Moderate   REF: 2.2   TOP: II.E.
    MSC: Analyzing

48. Which of the following counts toward changes in the current GDP?
    a. You find $10 on the sidewalk.
    b. You purchase a used stereo from a friend.
    c. The government builds a new highway.
    d. You fix your own sink.
    e. None of these answers is correct.

    ANS: C   DIF: Moderate   REF: 2.2   TOP: II.E.
    MSC: Analyzing

49. Which of the following does NOT count toward changes in the current GDP?
    a. A student pays for another year of tuition.
    b. You buy a used car from your parents.
    c. The local police station buys new squad cars.
    d. The Pentagon buys gasoline.
    e. None of these answers is correct.

    ANS: B   DIF: Moderate   REF: 2.2   TOP: II.E.
    MSC: Analyzing

50. By how much does the current GDP rise in the following scenario? A real estate agent sells a house for $250,000 that the previous owners had purchased 10 years earlier for $90,000. The real estate agent earns a commission of $10,000.
    a. $160,000
    b. $250,000
    c. $10,000
    d. $90,000
    e. $260,000

    ANS: C   DIF: Moderate   REF: 2.2   TOP: II.E.
    MSC: Analyzing

51. By how much does GDP change between 2014 and 2015 in the following scenario? In 2014, a rich woman has a chef and pays him $50,000 to cook for her. In 2015, she marries the chef and he continues to cook.
    a. GDP rises by $50,000.
    d. GDP rises by $25,000.

b. GDP is unchanged.
c. GDP falls by $50,000.

e. Not enough information is given.

ANS: C   DIF: Moderate   REF: 2.2   TOP: II.E.
MSC: Analyzing

52. Nominal GDP is the _____ of all goods and services produced in a period of time using _____ prices.
   a. value; 1945
   b. summation; current
   c. value; a previous year's
   d. value; current
   e. summation; base-year

ANS: D   DIF: Moderate   REF: 2.3   TOP: II.E.
MSC: Understanding

53. If you own your own home, National Accounts uses _____ to measure the value of your home.
   a. the geometric mean of the highest- and lowest-priced houses in your neighborhood
   b. the original purchase price
   c. an estimated price of your house based on current market conditions
   d. "rental equivalents"
   e. the value of your home to your insurance carrier

ANS: D   DIF: Moderate   REF: 2.2   TOP: II.E.
MSC: Remembering

54. Real GDP is the _____ of all goods and services produced in a period of time using _____ prices.
   a. summation; current
   b. value; base-year
   c. value; 1970
   d. value; 1945
   e. summation; base-year

ANS: B   DIF: Moderate   REF: 2.3   TOP: III.
MSC: Understanding

55. Which of the following is NOT discussed in Jones and Klenow's alternative measure of economic welfare?
   a. inequality
   b. leisure
   c. life expectancy
   d. child mortality rates
   e. consumption share of GDP

ANS: D   DIF: Easy   REF: 2.3   TOP: III.A.
MSC: Remembering

56. Nominal GDP is given by _____, where the price level is the _____.
   a. Nominal GDP = Price level ⊥ Real GDP; GDP deflator
   b. Nominal GDP = Price level ⁄ Real GDP; GDP deflator
   c. Nominal GDP = Price level + Real GDP; CPI
   d. Nominal GDP = Price level − Real GDP; GDP deflator
   e. Nominal GDP = Price level ⊥ Real GDP; CPI

ANS: A   DIF: Easy   REF: 2.3   TOP: III.
MSC: Remembering

57. Real GDP is given by _____, where the price level is the _____.
   a. Real GDP = Nominal GDP ⊥ Price level; CPI

b.   Real GDP = Nominal GDP ÷ Price level; GDP deflator
c.   Real GDP = Nominal GDP + Price level; GDP deflator
d.   Real GDP = Nominal GDP − Price level; GDP deflator
e.   Real GDP = Nominal GDP ÷ Price level; CPI

ANS: B   DIF: Moderate   REF: 2.3   TOP: III.
MSC: Applying

58. The price level can be derived as _____ and is called the _____.
    a.   Price level = Nominal GDP ÷ Real GDP; CPI
    b.   Price level = Nominal GDP × Real GDP; CPI
    c.   Price level = Real GDP × Nominal GDP; GDP deflator
    d.   Price level = Real GDP ÷ Nominal GDP; Paasche deflator
    e.   Price level = Nominal GDP ÷ Real GDP; GDP deflator

ANS: E   DIF: Moderate   REF: 2.3   TOP: III.
MSC: Applying

59. The percent change in the nominal GDP is given as:
    a.   percent change in the price level + percent change in real GDP.
    b.   percent change in the price level − percent change in real GDP.
    c.   percent change in the price level × percent change in real GDP.
    d.   percent change in the price level ÷ percent change in real GDP.
    e.   price level × percent change in real GDP.

ANS: A   DIF: Easy   REF: 2.3   TOP: III.
MSC: Remembering

60. If the percent change in the price level is _____ than the percent change in _____ GDP, _____.
    a.   smaller; nominal; real GDP shrinks
    b.   greater; nominal; real GDP shrinks
    c.   greater; real; nominal GDP shrinks
    d.   greater; real; nominal GDP always stays the same
    e.   Not enough information is given.

ANS: B   DIF: Moderate   REF: 2.3   TOP: III.
MSC: Applying

61. Nominal gross domestic product is defined as the value of all goods:
    a.   and services produced by an economy, within its borders, over a period of time, at base-year prices.
    b.   produced by an economy, within its borders, over a period of time, at current prices.
    c.   and services produced by an economy, within its borders, over a period of time, at current prices.
    d.   and services produced by an economy's citizens, regardless of where they live, over a period of time, at current prices.
    e.   and services produced by an economy's citizens, regardless of where they live, over a period of time, at base-year prices.

ANS: C   DIF: Moderate   REF: 2.3   TOP: III.
MSC: Understanding

62. Real gross domestic product is defined as the value of all goods:

a. and services produced by an economy, within its borders, over a period of time, at base-year prices.
b. and services produced by an economy, within its borders, over a period of time, at current prices.
c. produced by an economy, within its borders, over a period of time, at current prices.
d. and services produced by an economy's citizens, regardless of where they live, over a period of time, at current prices.
e. and services produced by an economy's citizens, regardless of where they live, over a period of time, at base-year prices.

ANS: A   DIF: Moderate   REF: 2.3   TOP: III.
MSC: Understanding

Refer to the following table when answering the following questions. In this economy, only two goods are produced: video games and pistachios.

Table 2.3: National Income Accounting

	2017	2018
Quantity of pistachios	1,000	1,100
Quantity of video games	500	500
Price of pistachios	$1.00	$1.50
Price of video games	$15.00	$14.75

63. Consider Table 2.3. Using the Laspeyres index, the real GDP in 2017 is:
   a. $8,900.
   b. $8,500.
   c. $1,500.
   d. $15,500.
   e. $9,150.

   ANS: B   DIF: Moderate   REF: 2.3   TOP: III.C.1.
   MSC: Applying

64. Consider Table 2.3. Using the Laspeyres index, the real GDP in 2018 is:
   a. $9,025.
   b. $8,500.
   c. $8,600.
   d. $9,150.
   e. $8,475.

   ANS: C   DIF: Moderate   REF: 2.3   TOP: III.C.1.
   MSC: Applying

65. Consider Table 2.3. Using the Paasche index, the real GDP in 2018 is:
   a. $9,150.
   b. $8,500.
   c. $8,600.
   d. $9,025.
   e. $8,475.

   ANS: D   DIF: Moderate   REF: 2.3   TOP: III.C.1.
   MSC: Applying

66. Consider Table 2.3. Using the Paasche index, the real GDP in 2017 is:
   a. $8,475.
   b. $8,500.
   c. $8,600.
   d. $9,150.
   e. $8,875.

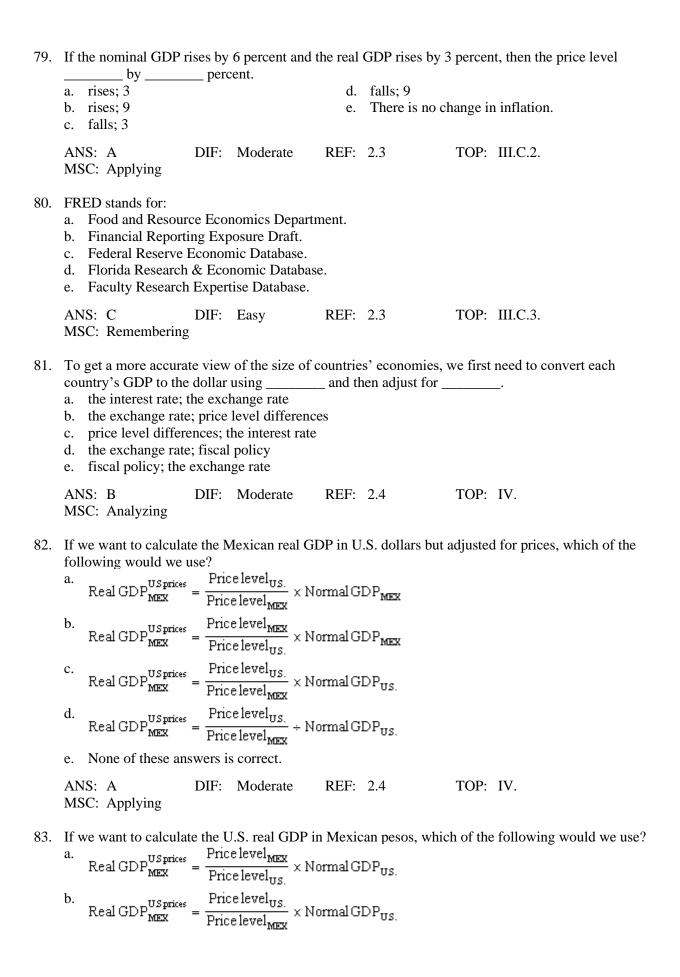   ANS: E   DIF: Moderate   REF: 2.3   TOP: III.C.1.
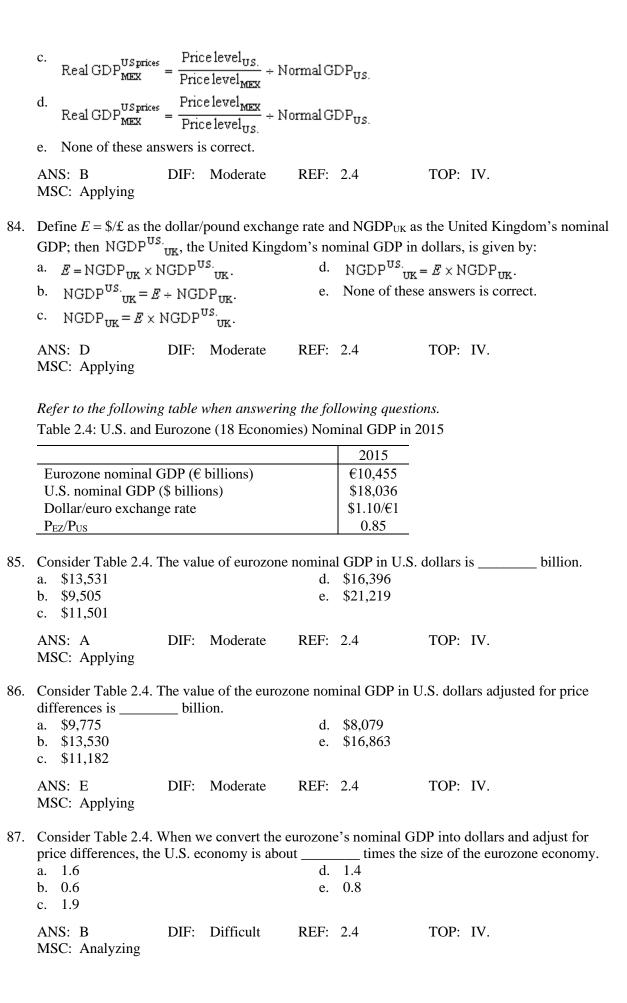   MSC: Applying

67. Consider Table 2.3. Using the Laspeyres index, inflation between 2017 and 2018 was about:
    a. 0 percent.
    b. 5 percent.
    c. 1 percent.
    d. 6 percent.
    e. Not enough information is given.

    ANS: B   DIF: Difficult   REF: 2.3   TOP: III.C.1.
    MSC: Applying

68. Consider Table 2.3. Using the Laspeyres index, the percent change in real GDP was about:
    a. 6 percent.
    b. 5 percent.
    c. 0 percent.
    d. 1 percent.
    e. Not enough information is given.

    ANS: D   DIF: Difficult   REF: 2.3   TOP: III.C.1.
    MSC: Applying

69. Consider Table 2.3. Using the Laspeyres index, the percent change in nominal GDP was about:
    a. 5 percent.
    b. 1 percent.
    c. 6 percent.
    d. 0 percent.
    e. Not enough information is given.

    ANS: C   DIF: Difficult   REF: 2.3   TOP: III.C.1.
    MSC: Applying

70. If we calculate the real GDP using the _____ index, we use the _____ period's prices.
    a. Laspeyres; final
    b. Paasche; final
    c. Paasche; initial
    d. chain-weighted; current
    e. chain-weighted; final

    ANS: B   DIF: Easy   REF: 2.3   TOP: III.C.1.
    MSC: Remembering

71. If we calculate the real GDP using the initial period's prices, we are using a _____ index. If, instead, we use the final period's prices, we are using a _____ index.
    a. Paasche; chain-weighted
    b. Laspeyres; chain-weighted
    c. Laspeyres; Paasche
    d. Paasche; Laspeyres
    e. chain-weighted; Fisher

    ANS: C   DIF: Easy   REF: 2.3   TOP: III.C.1.
    MSC: Remembering

72. The chain-weighted measure of real GDP uses prices from a:
    a. constant base year.
    b. constantly changing base year.
    c. base year that changes every five years.
    d. base year that changes every 10 years.
    e. None of these answers is correct.

    ANS: B   DIF: Easy   REF: 2.3   TOP: III.C.3.
    MSC: Remembering

73. Suppose we calculate the percent change in real GDP from year 1 to year 2 using both the Laspeyres and the Paasche indices. With the Laspeyres index we get 12 percent and with the Paasche index we get 9 percent. The chain-weighted growth of real GDP is _____ percent.
    a. 1.5
    d. 9.5

b. 9.75   e. 10.5
c. 1.33

ANS: E   DIF: Moderate   REF: 2.3   TOP: III.C.3.
MSC: Applying

74. Nominal GDP means that the value of all goods and services is measured in _____ prices.
a. average   d. current
b. last year's   e. constant
c. the base year's

ANS: D   DIF: Easy   REF: 2.3   TOP: III.C.2.
MSC: Remembering

75. If NGDP is nominal GDP and RGDP is real GDP, which of the following can be used to calculate inflation?
a. percent change in NGDP + percent change in RGDP
b. percent change in NGDP – percent change in RGDP
c. percent change in NGDP ⌐ percent change in RGDP
d. percent change in RGDP + percent change in NGDP
e. percent change in RGDP – percent change in NGDP

ANS: B   DIF: Moderate   REF: 2.3   TOP: III.C.2.
MSC: Applying

76. If NGDP is nominal GDP and P is the price level, which of the following can be used to calculate the growth of the real GDP?
a. percent change in NGDP – percent change in P
b. percent change in NGDP + percent change in P
c. percent change in NGDP ⌐ percent change in P
d. percent change in P + percent change in NGDP
e. percent change in P – percent change in NGDP

ANS: A   DIF: Moderate   REF: 2.3   TOP: III.C.2.
MSC: Applying

77. If the nominal GDP rises by 3 percent and the price level rises by 5 percent, then the real GDP _____ by _____ percent.
a. rises; 8   d. falls; 2
b. falls; 8   e. None of these answers is correct.
c. rises; 2

ANS: D   DIF: Moderate   REF: 2.3   TOP: III.C.2.
MSC: Applying

78. If the nominal GDP rises by 6 percent and the price level rises by 3 percent, then the real GDP _____ by _____ percent.
a. falls; 3   d. falls; 9
b. rises; 9   e. None of these answers is correct.
c. rises; 3

ANS: C   DIF: Moderate   REF: 2.3   TOP: III.C.2.
MSC: Applying

79. If the nominal GDP rises by 6 percent and the real GDP rises by 3 percent, then the price level
_____ by _____ percent.
   a. rises; 3
   b. rises; 9
   c. falls; 3
   d. falls; 9
   e. There is no change in inflation.

   ANS: A   DIF: Moderate   REF: 2.3   TOP: III.C.2.
   MSC: Applying

80. FRED stands for:
   a. Food and Resource Economics Department.
   b. Financial Reporting Exposure Draft.
   c. Federal Reserve Economic Database.
   d. Florida Research & Economic Database.
   e. Faculty Research Expertise Database.

   ANS: C   DIF: Easy   REF: 2.3   TOP: III.C.3.
   MSC: Remembering

81. To get a more accurate view of the size of countries' economies, we first need to convert each
country's GDP to the dollar using _____ and then adjust for _____.
   a. the interest rate; the exchange rate
   b. the exchange rate; price level differences
   c. price level differences; the interest rate
   d. the exchange rate; fiscal policy
   e. fiscal policy; the exchange rate

   ANS: B   DIF: Moderate   REF: 2.4   TOP: IV.
   MSC: Analyzing

82. If we want to calculate the Mexican real GDP in U.S. dollars but adjusted for prices, which of the
following would we use?
   a.
   $$\text{Real GDP}_{MEX}^{US\,prices} = \frac{\text{Price level}_{US.}}{\text{Price level}_{MEX}} \times \text{Normal GDP}_{MEX}$$
   b.
   $$\text{Real GDP}_{MEX}^{US\,prices} = \frac{\text{Price level}_{MEX}}{\text{Price level}_{US.}} \times \text{Normal GDP}_{MEX}$$
   c.
   $$\text{Real GDP}_{MEX}^{US\,prices} = \frac{\text{Price level}_{US.}}{\text{Price level}_{MEX}} \times \text{Normal GDP}_{US.}$$
   d.
   $$\text{Real GDP}_{MEX}^{US\,prices} = \frac{\text{Price level}_{US.}}{\text{Price level}_{MEX}} \div \text{Normal GDP}_{US.}$$
   e. None of these answers is correct.

   ANS: A   DIF: Moderate   REF: 2.4   TOP: IV.
   MSC: Applying

83. If we want to calculate the U.S. real GDP in Mexican pesos, which of the following would we use?
   a.
   $$\text{Real GDP}_{MEX}^{US\,prices} = \frac{\text{Price level}_{MEX}}{\text{Price level}_{US.}} \times \text{Normal GDP}_{US.}$$
   b.
   $$\text{Real GDP}_{MEX}^{US\,prices} = \frac{\text{Price level}_{US.}}{\text{Price level}_{MEX}} \times \text{Normal GDP}_{US.}$$

c.

$$\text{Real GDP}^{US\,prices}_{MEX} = \frac{\text{Price level}_{US.}}{\text{Price level}_{MEX}} \div \text{Normal GDP}_{US.}$$

d.

$$\text{Real GDP}^{US\,prices}_{MEX} = \frac{\text{Price level}_{MEX}}{\text{Price level}_{US.}} \div \text{Normal GDP}_{US.}$$

e.   None of these answers is correct.

ANS: B   DIF: Moderate   REF: 2.4   TOP: IV.
MSC: Applying

84.   Define $E = \$/£$ as the dollar/pound exchange rate and $NGDP_{UK}$ as the United Kingdom's nominal GDP; then $NGDP^{US.}_{UK}$, the United Kingdom's nominal GDP in dollars, is given by:

a. $E = NGDP_{UK} \times NGDP^{US.}_{UK}$.

b. $NGDP^{US.}_{UK} = E \div NGDP_{UK}$.

c. $NGDP_{UK} = E \times NGDP^{US.}_{UK}$.

d. $NGDP^{US.}_{UK} = E \times NGDP_{UK}$.

e.   None of these answers is correct.

ANS: D   DIF: Moderate   REF: 2.4   TOP: IV.
MSC: Applying

Refer to the following table when answering the following questions.
Table 2.4: U.S. and Eurozone (18 Economies) Nominal GDP in 2015

	2015
Eurozone nominal GDP (€ billions)	€10,455
U.S. nominal GDP ($ billions)	$18,036
Dollar/euro exchange rate	$1.10/€1
P_{EZ}/P_{US}	0.85

85.   Consider Table 2.4. The value of eurozone nominal GDP in U.S. dollars is _____ billion.
a. $13,531
b. $9,505
c. $11,501
d. $16,396
e. $21,219

ANS: A   DIF: Moderate   REF: 2.4   TOP: IV.
MSC: Applying

86.   Consider Table 2.4. The value of the eurozone nominal GDP in U.S. dollars adjusted for price differences is _____ billion.
a. $9,775
b. $13,530
c. $11,182
d. $8,079
e. $16,863

ANS: E   DIF: Moderate   REF: 2.4   TOP: IV.
MSC: Applying

87.   Consider Table 2.4. When we convert the eurozone's nominal GDP into dollars and adjust for price differences, the U.S. economy is about _____ times the size of the eurozone economy.
a.   1.6
b.   0.6
c.   1.9
d.   1.4
e.   0.8

ANS: B   DIF: Difficult   REF: 2.4   TOP: IV.
MSC: Analyzing

88. Consider Table 2.4. When we convert the eurozone's nominal GDP into dollars but do not adjust for price differences, the U.S. economy is about _____ the eurozone economy.
   a. 1.9 times the size of
   b. the same size as
   c. 0.8 times the size of
   d. 1.6 times the size of
   e. 1.7 times the size of

   ANS: D   DIF: Difficult   REF: 2.4   TOP: IV.
   MSC: Applying

TRUE/FALSE

1. The largest GDP expenditure share historically has been government expenditure.

   ANS: F   DIF: Easy   REF: 2.2   TOP: I.
   MSC: Understanding   NOT: It is consumption expenditure.

2. In 2012, consumption expenditures accounted for over 70 percent of the total GDP.

   ANS: T   DIF: Easy   REF: 2.2   TOP: I.
   MSC: Remembering

3. The value added for a good produced is equal to the value of the firm's output *plus* the value of the intermediate goods used to produce that output.

   ANS: F   DIF: Moderate   REF: 2.2   TOP: II.
   MSC: Understanding
   NOT: It is equal to the value of the firm's output minus the value of the intermediate goods used to produce that output.

4. According to the expenditure approach to GDP, household expenditures include purchases of residential housing.

   ANS: F   DIF: Moderate   REF: 2.2   TOP: II.B.
   MSC: Remembering
   NOT: Residential housing is included in investment expenditures.

5. The largest share of household consumption expenditures is durable goods.

   ANS: F   DIF: Moderate   REF: 2.2   TOP: II.B.
   MSC: Remembering   NOT: It is services.

6. According to the expenditure approach to GDP, investment expenditures include purchases of residential housing.

   ANS: T   DIF: Moderate   REF: 2.2   TOP: II.B.
   MSC: Remembering

7. According to the income approach to GDP, the largest portion of GDP is compensation to employees.

   ANS: T   DIF: Easy   REF: 2.2   TOP: II.C.
   MSC: Remembering

8. According to the income approach to GDP, the largest portion of GDP is net operating surplus.

    ANS: F   DIF: Easy   REF: 2.2   TOP: II.C.
    MSC: Remembering   NOT: It is compensation to employees.

9. In the income approach to GDP, fixed capital depreciation is defined as the after-tax profits of a firm.

    ANS: F   DIF: Easy   REF: 2.2   TOP: II.C.
    MSC: Remembering
    NOT: It is the decline in the value of capital due to wear and tear.

10. GDP measures the value of *all* economic activity.

    ANS: F   DIF: Moderate   REF: 2.2   TOP: II.D.
    MSC: Understanding   NOT: It measures only market activity.

11. When you cook yourself dinner, you are contributing to economic activity, but it is not measured in GDP.

    ANS: T   DIF: Moderate   REF: 2.2   TOP: II.D.
    MSC: Analyzing

12. When you buy a car from your brother, which he bought new in 2000, the purchase adds to current GDP.

    ANS: F   DIF: Moderate   REF: 2.2   TOP: II.E.
    MSC: Analyzing   NOT: It added to 2000's GDP.

13. GDP often is used as a "measure" of economic welfare; it includes all factors that contribute to economic well-being.

    ANS: F   DIF: Moderate   REF: 2.2   TOP: III.A.
    MSC: Analyzing
    NOT: It does not include costs like pollution, crime, depletion of resources, and environmental degradation.

14. If the percent change in prices is greater than the percent change in the nominal GDP, the real GDP shrinks.

    ANS: T   DIF: Moderate   REF: 2.3   TOP: III.C.2.
    MSC: Applying

15. If the percent change in prices is greater than the percent change in the nominal GDP, the real GDP rises.

    ANS: F   DIF: Moderate   REF: 2.2   TOP: III.C.2.
    MSC: Applying

16. When calculating the real GDP using the Laspeyres index, we use the final period's prices.

    ANS: F   DIF: Easy   REF: 2.3   TOP: III.C.1.
    MSC: Remembering   NOT: We use the initial period's prices.

17. When calculating the real GDP using the Paasche index, we use the final period's prices.

    ANS: T   DIF: Easy   REF: 2.3   TOP: III.C.1.
    MSC: Remembering

18. If the nominal GDP rises by 5 percent and the price level falls by 2 percent, the real GDP falls by 7 percent.

    ANS: F   DIF: Moderate   REF: 2.3   TOP: III.C.3.
    MSC: Applying   NOT: The real GDP rises by 7 percent.

19. If Croatia's price level is higher than the U.S. price level, Croatia's dollar-denominated GDP, calculated using price adjustments, will appear smaller than if simply calculated with the exchange rate.

    ANS: T   DIF: Moderate   REF: 2.4   TOP: IV.
    MSC: Analyzing

20. To get an accurate view of how GDPs differ across countries, we simply need to convert all countries' GDPs into dollars using the prevailing exchange rate.

    ANS: F   DIF: Moderate   REF: 2.4   TOP: IV.
    MSC: Understanding
    NOT: We also need to account for price level differences.

21. If the percent change in real GDP is found to be 4 percent using the Laspeyres index and 3 percent using the Paasche index, the chain-weighted price index will give us a growth rate of 3.5 percent.

    ANS: T   DIF: Moderate   REF: 2.3   TOP: IV.
    MSC: Applying   NOT: $3.5 = (1/2)(4\% + 3\%)$.

SHORT ANSWER

1. What is real GDP? Why do we calculate real GDP? What are the shortcomings of real GDP?

    ANS:
    Real GDP is the value of all goods and services produced within an economy's borders over a period of time, at constant prices. It is calculated to measure overall economic activity and aggregate income. This is used as a measure of welfare, as higher income connotes higher consumption, health, leisure, and so on. However, there are shortcomings. First, it misses unreported output (i.e., "under the table" output of goods and services), output that is done in day-to-day life (e.g., making yourself a sandwich), and it assumes that more output leads to more welfare. However, "defensive" output (e.g., walls built to buffer noise pollution) increases GDP but may not improve welfare. Also it does not account for other costs of production (e.g., pollution, crime, resource depletion, etc.).

    DIF: Moderate   REF: 2.2   TOP: II.   MSC: Analyzing

2. Using the expenditure approach to national income accounting, when discussing government expenditures, do we include transfer payments? Why or why not?

    ANS:

No. The expenditure approach concentrates on *purchases of goods and services* only. Transfer payments are income transfers and are not directly used to buy things. Therefore, they do not directly stimulate the creation of new value in the economy in the way that purchases of goods and services do. They are a form of negative tax and would therefore be a form of income for recipients of the transfer, enhancing disposable income: disposable income = income − (taxes − transfers).

DIF: Moderate   REF: 2.2   TOP: II.B.   MSC: Analyzing

3. What are the components that make up the *income approach* to calculating GDP? What are the components that make up the *expenditure approach* to calculating GDP?

ANS:
(a) Income approach: compensation to employees; indirect business taxes; net operating surplus of business (profits); and depreciation of fixed capital
(b) Expenditure approach: household consumption; fixed private investment; net exports; and government expenditures

DIF: Easy   REF: 2.2   TOP: II.B. | II.C.   MSC: Remembering

4. Identify which of the following goods are part of the current year's U.S. GDP and which are considered the current year's U.S. gross national product (GNP); explain. (Note: Ford is a company owned by U.S. citizens and Toyota is a company owned by Japanese citizens.)
(a) a Ford produced in Mexico
(b) a Toyota produced in California
(c) a meal you make for a dinner party
(d) an American-made vintage T-shirt from Led Zeppelin's 1971 North American tour you bought online last week

ANS:
(a) It is part of U.S. GNP but not GDP as it is not produced within U.S. borders; it is part of Mexico's GDP.
(b) It is part of U.S. GDP but not GNP as it is not produced by a U.S. firm; it is part of Japan's GNP.
(c) Neither; it is "under the table" production and is not included in the national accounts.
(d) Neither, as it is not current production. The T-shirt is not counted in current GDP; it was, however, part of 1971's GDP.

DIF: Moderate   REF: 2.2   TOP: II.E.   MSC: Analyzing

5. Consider the data in the following table, which represents the total production of the country Byzantium. It produces only consumer goods.

	2017	2018	2019
Quantity of Y	100	105	103
Quantity of X	5	3	4
Price of Y	$5	$5	$5
Price of X	$100	$105	$110

(a) Calculate real GDP for all three years, using 2017 as the base year.
(b) Calculate the consumer price index (CPI), using 2017 as the base year. Identify whether there was inflation from the previous year.

ANS:

Real GDP is a form of the Paasche index, so for each year we use the current year's prices and that year's quantities:
*2017: RGDP = 100 × $5 + 5 × $100 = $1,000
*2018: RGDP = 105 × $5 + 3 × $100 = $825
*2109: RGDP = 103 × $5 + 4 × $100 = $915

The equation for the CPI is:

$$GDP\ Deflator = \frac{P_x^C \cdot Q_x^C + P_y^C \cdot Q_y^C}{P_x^B \cdot Q_x^C + P_y^B \cdot Q_y^C} \times 100,$$

where the *C/B* superscript denotes the current/base year.

To make it easier, the denominator is equal to $1,000.
*2017: Since the base and current year are the same: $CPI_{2017} = 100$;
*2018: 825/1000 × 100 = 82.5; prices fell 17.5 percent from 2017 to 2018; and
*2019: 915/1000 × 100 = 91.5; prices are 8.5 percent lower in 2019 than in 2017 but are about 11 percent higher than in 2018.

DIF: Difficult   REF: 2.3   TOP: III.   MSC: Analyzing

6. You are a staff economist for your local bank and the bank manager claims that in 2014 the Chinese economy was bigger than that of   the United States. To prove him wrong you decide to put your economics training to work for you and decide to show him China's GDP in U.S. dollars; to show him how smart you are, you also decide to calculate the real GDP of China in U.S. dollars and prices and compare that to the United States as well. You have the following data: in 2014, China's nominal GDP was CY 63.6 trillion (CY = Chinese yuan); the yuan-dollar exchange rate was CY 6.14/$1; nominal GDP in the United States was $17.3 trillion; the price level in the United States was 1.0 and the price level in China was 0.6. How big is China's economy?

ANS:
The first part of the question is straightforward. Just convert Chinese nominal GDP to dollars by dividing it by the yuan-dollar exchange rate (conversely, this is the same as multiplying it by the dollar-yuan exchange rate): $\$NGDP_{CH} = 63.6/6.14 = \$10.4$. Thus, the Chinese economy is about 60 percent the size of the U.S. economy. But to get a more accurate view we need to look at GDP adjusted for price differences, PPP adjusted Chinese GDP. So we use the equation:

$PPPGDP_{CH} = P_{U.S}/P_{CH} \times \$NGDP_{CH} = (1/0.6) \times \$10.4\ tril = \$17.3\ tril.$

Thus, once we take price differences into consideration, the Chinese economy is about the same size as the U.S. economy.

DIF: Difficult   REF: 2.4   TOP: IV.   MSC: Analyzing

7. You are a staff economist for your local bank and the bank manager asks you to calculate whether United Arab Emirates (UAE), Luxembourg (LUX), Canada (CAN), or the United States (USA) is biggest in per capita terms when adjusted for price differences. She gives you the following data table and asks you to fill in the missing values.

Population (column A) and GDP (D) are in millions. GDP in column D is in local currency units (LCU): the euro for Luxembourg, the dirham for the UAE, the Canadian dollar, and the U.S. dollar. The exchange rate (B) is units of foreign currency per U.S. dollar, and P_i/P_{US} is the price level for other countries relative to the United States.
Fill in the missing values.

Table 2.5: GDP, Population, and Exchange Rate Data in 2014

	Pop	Exchange Rate	P_i/P_{US}	GDP (millions LCU)	LCU Per Capita GDP	Per Capita GDP ($US)	PPP Per Capita GDP ($US)
	(A)	(B)	(C)	(D)	(E)	(F)	(G)
UAE	9.09	3.67	2.4	1,466,985	–	–	–
LUX	0.56	0.75	0.9	48,898	–	–	–
CAN	35.6	1.11	1.2	1,973,043	–	–	–
USA	319.4	1.00	1.00	17,348,072	–	–	–

(Source: World Bank and Penn World Tables 9.0)

ANS:
The calculation will be done using columns rather than numbers.

⌇ First you need to calculate per capita GDP in national currency, which is simply D/A;
⌇ To get per capita GDP in dollars: E/B;
⌇ To get PPP PC GDP: F/C;
⌇ This gives you the following table.
⌇ You can conclude total GDP in the United States is the largest and per capita GDP is larger in Luxembourg, but once you adjust for prices, all the countries have higher per capita GDP than the United States.

Table 2.5: GDP, Population, and Exchange Rate Data in 2014

	Pop	Exchange Rate	P_i/P_{US}	GDP (millions LCU)	LCU Per Capita GDP	Per Capita GDP ($US)	PPP Per Capita GDP ($US)
	A	B	C	D	E	F	G
UAE	9.1	3.67	2.4	1,466,985	161,453	43,963	18,318
LUX	0.6	0.75	0.9	48,898	87,855	116,560	129,511
CAN	35.6	1.11	1.2	1,973,043	55,442	50,123	41,769
USA	319.4	1.00	1.0	17,348,072	54,306	54,306	54,306

DIF: Difficult   REF: 2.4   TOP: IV.   MSC: Applying

8. In your political science course you are studying the European Union (EU). During lectures your professor mentions that Germany has the largest per capita GDP in the EU. There's something you don't like, as you suspect price may play a role in determining actual per capita GDP. You collect the following data for the EU economies of Austria (AUS), Germany (DEU), Spain (ESP), France (FRA), and the United Kingdom (UK) from the World Bank and the Penn World Tables and do some calculations to get the answers for columns E–G in Table 2.6 below. What do you tell your professor?

Population (column A) and GDP (D) are in millions. GDP in column D is in local currency units, the pound is for the UK, and the euro is for the remaining countries. The exchange rate (B) is units of foreign currency per U.S. dollar, and P_i/P_{US} is the price level for other countries relative to the United States.

Table 2.6: Data for Five European Union Countries, 2014

Country	Pop	Exchange Rate	P_i/P_{US}	GDP (mil. LCU)	GDP (mil. $US)	PPP GDP ($US)	PPP Per Capita GDP ($US)
	A	B	C	D	E	F	G
AUS	8.5	0.75	0.8	329,296	–	–	–
DEU	80.6	0.75	0.8	2,915,650	–	–	–
ESP	46.3	0.75	0.7	1,041,160	–	–	–
FRA	66.1	0.75	0.8	2,132,449	–	–	–
UK	64.3	0.61	0.7	1,817,234	–	–	–

(Source: World Bank and Penn World Tables 9.0)

ANS:
The calculation will be done using columns rather than numbers.

⨎ Column E: $USGDP = D/E;
⨎ Column F: $USPPPGDP = E ⊐ C;
⨎ To get PC $USPPPGDP: F/A; and
⨎ The country with the largest per capita PPP adjusted GDP in U.S. dollars is Austria, but Germany is the largest overall economy in terms of PPP unadjusted and adjusted aggregate output.

Table 2.6: Data for Five European Union Countries, 2014

Country	Pop	Exchange Rate	P_i/P_{US}	GDP (mil. LCU)	GDP (mil. $US)	PPP GDP ($US)	PPP Per Capita GDP ($US)
	A	B	C	D	E	F	G
AUS	8.5	0.75	0.8	329,296	439,061	351,249	41,323
DEU	80.6	0.75	0.8	2,915,650	3,887,533	3,110,027	38,586
ESP	46.3	0.75	0.7	1,041,160	1,388,213	971,749	20,988
FRA	66.1	0.75	0.8	2,132,449	2,843,265	2,274,612	34,412
UK	64.3	0.61	0.7	1,817,234	2,979,072	2,085,350	32,432

DIF: Difficult   REF: 2.4   TOP: IV.   MSC: Analyzing

9. There has been a lot of discussion about the European economies that use the euro as their currency. You discuss this with your aunt and uncle in Denmark. They hear that the eurozone (EZ) economies are shrinking, but when they look at the data, presented below, they actually see that EZ nominal GDP (NGDP) is growing. They know you are taking economics and ask you how these both can be true. You decide to collect some additional data to answer the question: you collect the exchange rate, the relative prices in the EZ and the United States, and the CPI for the EZ economies, and you fill in the rest of the table, which is PPP GDP in U.S. dollars, PPP GDP in euros (€), and real GDP in U.S. dollars. Is there a contradiction between what your Danish family heard and the data? How can you explain what appears to be the contradiction?

Table 2.7: U.S. and Eurozone (18 Economies) Nominal GDP in 2014

Year	Eurozone NGDP (billions)	$US/Euro Exchange Rate	P_{EZ}/P_{US}	CPI	GDP PPP (€s)	NGDP ($US)	GDP PPP ($US)
2010	9,535	1.33	0.79	0.933	–	–	–
2011	9,794	1.39	0.78	0.958	–	–	–
2012	9,835	1.29	0.78	0.982	–	–	–
2013	9,936	1.33	0.76	0.995	–	–	–
2014	10,113	1.33	0.76	1.000	–	–	–
2015	10,403	1.11	0.77	1.000	–	–	–

(Source: FRED II, Eurostat)

ANS:
Looking at the data in the first column, indeed the 18 EZ economies are growing. But once you do some calculations adjusting for prices, different currencies, and both, a different picture arises. First, we can see that PPP GDP in euros has stayed more or less constant at about €7.6 trillion. This is because, although the EZ economies have been growing, it has been slow, about 1.5 percent. Secondly, we see that, relative to the dollar, the euro buys fewer goods and services. Similarly, for real GDP, inflation was relatively high from 2010–2013, and then calmed down, eroding income. With respect to nominal GDP in U.S. dollars, we see that in 2015 it fell and is roughly €1 trillion less than it was in 2010; this is largely due to the sharp decline in the value of the euro relative to the U.S. dollar in 2015. All these combine to reduce PPP adjusted GDP over the period.

Table 2.7: U.S. and Eurozone (18 Economies) Nominal GDP in 2014

Year	Eurozone NGDP (billions)	$US/Euro Exchange Rate	P_{EZ}/P_{US}	CPI	GDP PPP (€s)	RGDP (€s)	NGDP ($US)	GDP PPP $US
2010	9,535	1.33	0.79	0.933	7,536	10,222	12,658	10,004
2011	9,794	1.39	0.78	0.958	7,641	10,222	13,634	10,636
2012	9,835	1.29	0.78	0.982	7,625	10,013	12,651	9,809
2013	9,936	1.33	0.76	0.995	7,549	9,982	13,201	10,029
2014	10,113	1.33	0.76	1.000	7,683	10,116	13,439	10,210
2015	10,403	1.11	0.77	1.000	7,981	10,403	11,547	8,858

DIF: Difficult   REF: 2.4   TOP: IV.   MSC: Analyzing