

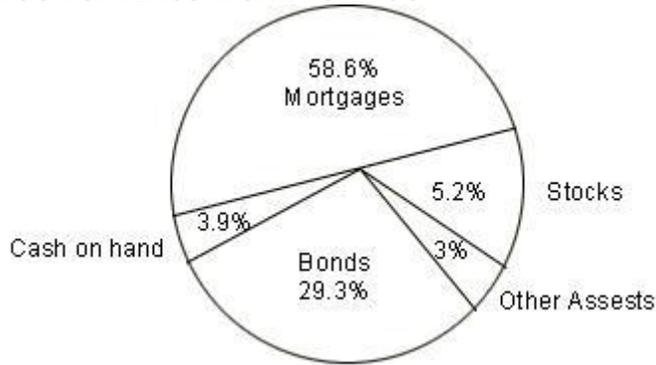
## Pie Charts

In this type of data interpretation, the total quantity is distributed over 360 degrees and only one parameter can be depicted in it like Percentages of various things with respect to the total quantity, Shares contributed by various companies for a particular quantity etc.

The value of various elements can be depicted in pie chart in degrees such that

$$100\% = 360 \Rightarrow 1\% = 3.6 \text{ degree}$$

**A SAVINGS BANK IN A LARGE CITY PUBLISHED THE FOLLOWING GRAPH FOR ITS DEPOSITORS, HOW YOUR SAVINGS WORK FOR YOU.**



1. About how many degrees (to the nearest degree) are in the angle of the sector representing mortgages?

- A. 59
- B. 106
- C. 211
- D. 246
- E. 318

Answer : option C

Explanation : Mortgages --> 58.6%

Therefore 58.6% of 360 degrees =  $(58.6/100) \times 360 = (0.586) (360) = 210.9$  degrees.

This is nearest to 211. Therefore the answer is C.

2. The annual rate of interest from "other assets" is 4.8%. If the total assets of the bank are 57.6 million dollars, what is the annual income (in dollars) from "other assets"?

- A. 82,944
- B. 921,600
- C. 1,728,000
- D. 2,764,800
- E. 3,600,000

Answer : option A

Explanation : Total assets = \$57.6 million.

Other assets=3% of total assets = \$ 1.728 million.

4.8% of \$1.728 million = \$ 0.082944 million or \$ 82944.

3. The average annual interest on mortgage investments is m% and the average annual interest on the mortgage bond investment is b%. If the annual interest on the bond investment is x dollars, how many dollars are invested in mortgages?

- A.  $xm/b$ .
- B.  $xb/m$ .
- C.  $100xb/m$
- D.  $bx/100m$ .
- E.  $200x/b$

Answer : option E

Explanation : Amount invested in bonds =  $\$(100x/b)$ .

Therefore the amount invested in mortgages must be  $\$(58.6/29.3) (100x/b) = \$ 200x/b$ .

4.About how many degrees (to the nearest degree) are in the angle of the sector representing cash on hand?

- A. 114

- B. 14
- C. 140
- D. 39
- E. 321

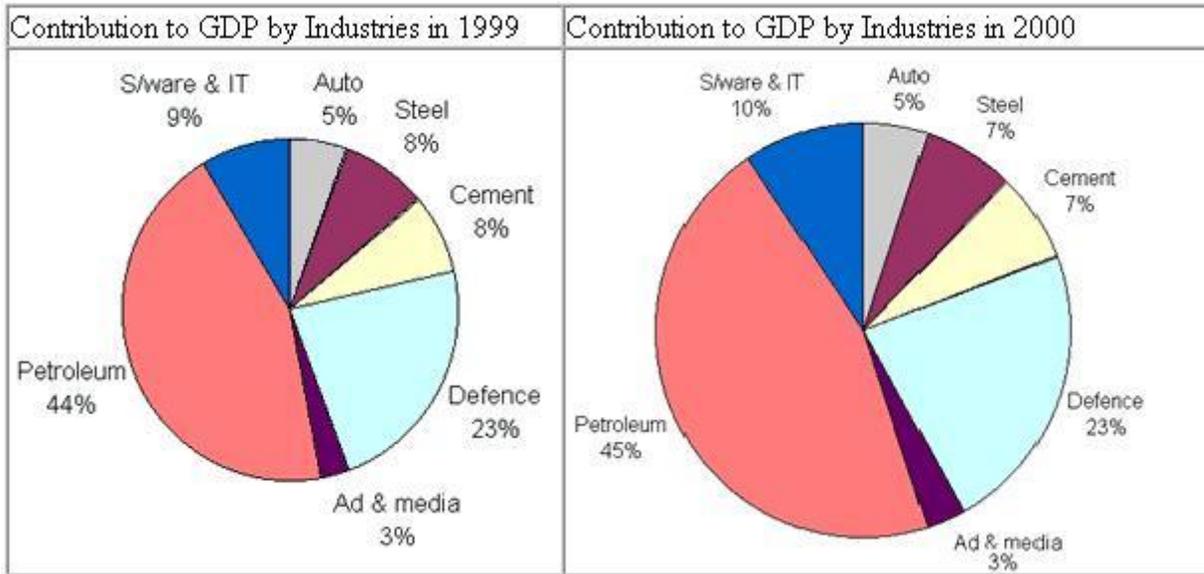
Answer : option B

Explanation : (3.9%) of 360 degrees. =  $(0.0369 \times 360) = 14.04$ .

This is nearest to 14. Therefore the answer is B.

### Exercise Questions

**Use the information provided in the two pie charts provided below. The total contribution to the GDP by the seven sectors mentioned in the pie charts in the year 1999 was Rs.289640 crores and Rs.317000 crores in the year 2000.**



1. Which of the industrial sectors witnessed the maximum rate of growth during the period 1999-2000

- a. Petroleum
- b. Software & IT
- c. Ad & media
- d. Cement

2. Which of the industrial sectors witnessed a negative growth during the period 1999-2000?

- a. Auto
- b. Defense
- c. Steel
- d. Petroleum

3. What was the rate of growth witnessed by the Software & IT sector during this period?

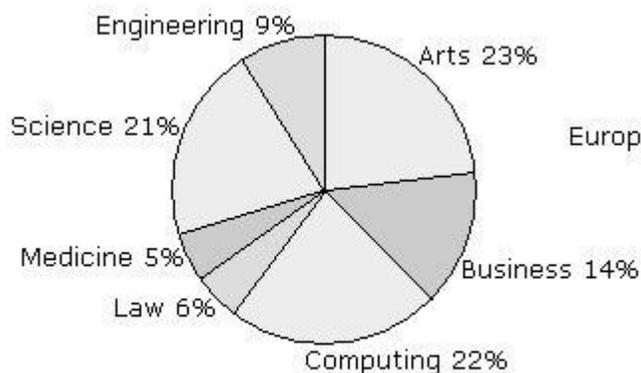
- a. 1%
- b. 12%
- c. 33%
- d. 22%

4. What was the rate of growth witnessed by the Petroleum sector during this period?

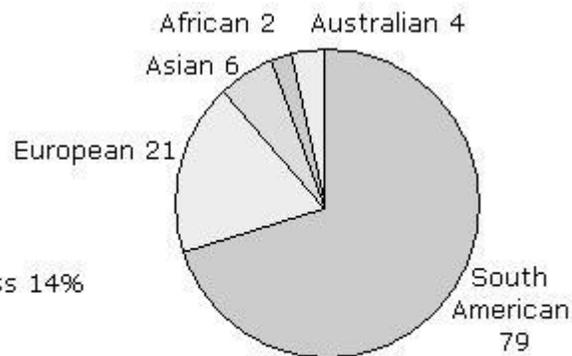
- a. 1.1%
- b. 12%
- c. 7.5
- d. -8

5. What was the rate of growth shown by the non-petroleum sectors between 1999-2000?

- a. -4%
- b. 4%
- c. 7%
- d. 12%



**Students by Faculty**



**Arts Students (Non-US)**

**Directions (6-10):** The pie charts above show the percentage of students in each faculty at North West University and the number of non-US students in the Arts faculty. These percentages have been rounded to the nearest whole number. There are a total of 1049 students in the Arts faculty. Use this information to answer the following questions.

6. What percentage of students in the Arts faculty are non-US students?

- a. 14%
- b. 9%
- c. 30%
- d. 11%

7. How many students are there in the Engineering faculty?

- a. 420
- b. 410
- c. 390
- d. 440

8. How many students are there at the university?

- a. 4650
- b. 4560
- c. 4640
- d. 4450

9. If six percent of Science students are Asian. How many Asian students are there studying Science?

- a. 48
- b. 66
- c. 120
- d. 57

10. There are 34 European medical students. What percentage of the faculty does this represent?

- a. 14%
- b. 18%

- c. 12%
- d. 15%

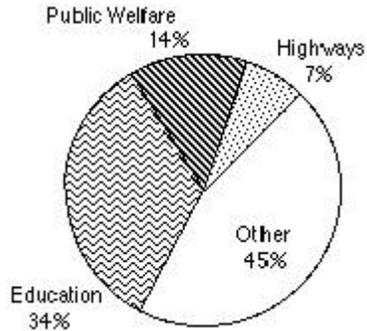
## Answer Key

1.b; 2.c; 3.d; 4.b; 5.c; 6.d; 7.b; 8.b; 9.d; 10.d

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I. Based on the circle graph given below, answer the following questions.

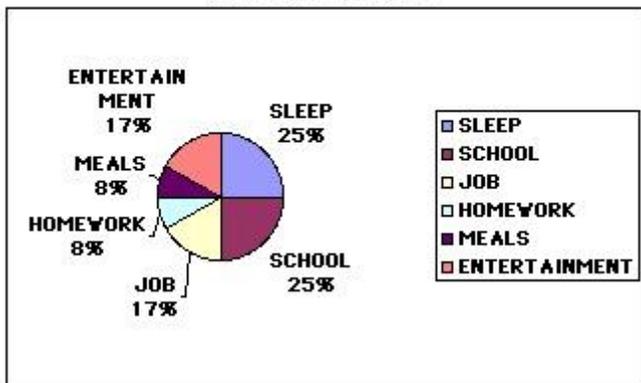
Expenditure for State and Local Governments



1. What type of information is being presented on this graph?
  - a. Expenditure for education
  - b. Expenditure for public welfare
  - c. Expenditure for state and local governments
  - d. Expenditure for highways
2. If the total spending is \$50,000, how much money was spent on highways?
  - a. \$3,500
  - b. \$22,500
  - c. \$ 15,000
  - d. \$ 20,000
3. Approximately how many times the amount spending on highways is spent on education?
  - a.10
  - b.3
  - c.5
  - d.15
4. Approximately what fraction of the total expenditures are spent on highways and public welfare combined?
  - a. 2/5
  - b. 1/5
  - c.1/2
  - d. 2/3
5. How much money was spent as other expenses
  - a. 22,500
  - b. 15,000
  - c. 30,000
  - d. 20,000

II. Study the graph given below and answer the following questions

## Percent of Hours of a Day Spent on Activities



- These two activities took up half of the time of the day
  - Entertainment and School
  - Meals and School.
  - Sleep and School
  - Homework and sleep
- These two activities took up the least amount of time
  - Sleep and School
  - Meals and Homework
  - Sleep and Job
  - School and Entertainment
- Which of these took up one fourth of the day?
  - Entertainment
  - Sleep
  - Homework
  - Meals
- What percent of the day does homework take up?
  - 2
  - 15
  - 8
  - 25
- Which of these takes up the same amount of time as meals and entertainment together?
  - Job
  - School
  - Homework
  - Entertainment

### Answer & Explanations

- 1.(c)
- 2.(a)
- 3.(c)
- 4.(b)
- 5.(a).

Exp. The graph title is Expenditures for State and Local Governments. The circle is cut into four sectors, each representing one category of expenditures, with the percentage of the total for each category.

Money spent on highways is \$3,500 (  $50,000 \times \frac{7}{100}$  ) = 3,500

State and local governments spent approximately five times more on education than on highways ( 34 % ).

Approximately  $\frac{1}{5}$  of the total is spent on highways and welfare combined.

(  $7 \times \frac{50,000}{100} + 14 \times \frac{50,000}{100} = 3,500 + 7,000 = 10,500$  )

$45 \times \frac{50,000}{100} = 22,500$

- II.1.(c)
- 2.(b)
- 3.(b)
- 4.(c)
- 5.(b)