Bar Graph

**Bar Graph**

A bar graph is a pictorial rendition of statistical data in which the independent variable can attain only certain discrete values. The dependent variable may be discrete or continuous. The most common form of bar graph is the vertical bar graph, also called a column graph.

In a vertical bar graph, values of the independent variable are plotted along a horizontal axis from left to right. Function values are shown as shaded or colored vertical bars of equal thickness extending upward from the horizontal axis to various heights. In a horizontal bar graph, the independent variable is plotted along a vertical axis from the bottom up. Values of the function are shown as shaded or colored horizontal bars of equal thickness extending toward the right, with their left ends vertically aligned.

Bar Graphs are most commonly used for data interpretation as they can be easily analysed vertical (or) Horizontal bars are given to interpret the data to deduce the required information.

Ex. Study the following bar graph carefully and answer the questions given below Imports and exports of a country from 2000 - 2001 to 2004 -2005
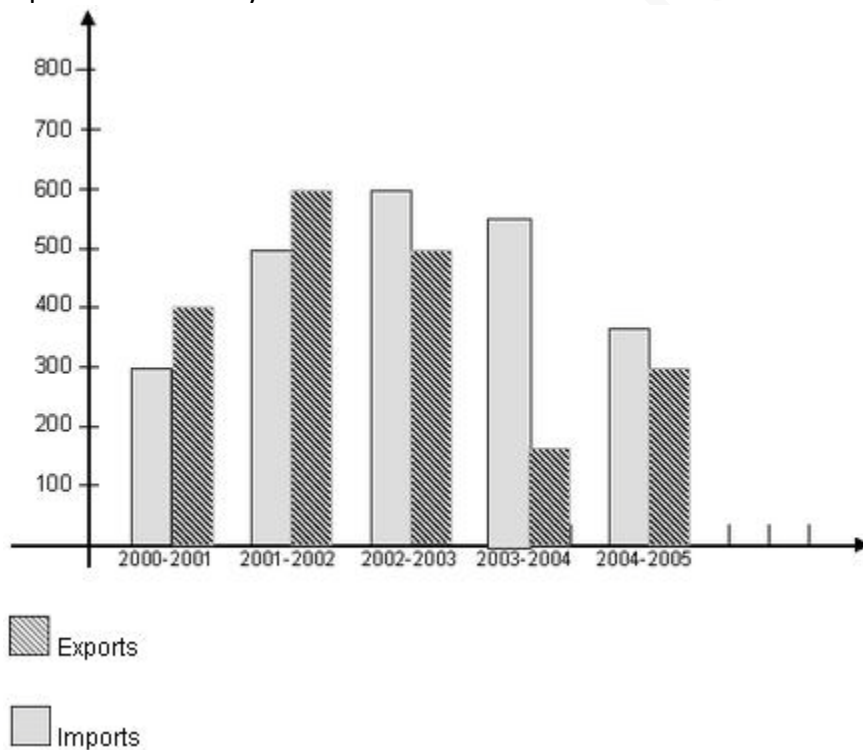
1.In which of the following year the gap between the import and export was maximum.
1. 2001-2002

2. 2002-2003
3. 2003-2004
4. 2004-2005

2.In which of the following year the gap between the imports and exports was minimum
1. 2002 - 2003
2. 2003 - 2004
3. 2004 - 2005
4. None of these

3. The exports in 2001 - 2002 was approximately how many times that of the year 2003- 2004.
1. 2
2. 3
3. 4
4. 5

4. Give the ratio between the number of years in which export is greater than imports and import is greater than exports.
1. 3 : 2
2. 2 : 3
3. 3 : 1
4. 1 : 3

5. Give the difference between the average of imports and exports
1. 100
2. 90
3. 80
4. 70

Solutions

1. It is very clear from the graph that the gap between import and export was maximum
   in 2003-2004
   Therefore, Correct option is '3'

2. From the graph we can say that the gap between imports and exports
   is minimum in 2004-2005
   i.e. 400 - 350 = 50 core
   Therefore, Correct option is '3'

3. The exports of the year 2001 - 2002 = 600
   The exports of the year 2003 - 2004 = 150
   Therefore, Exports of 2001 - 2002 is 4 times greater than the exports of 2003 -
    2004
   Therefore, Correct option is '3'

4. In 2 years i.e. 2000 - 2001 and 2001 -2002 exports are greater than imports In 3
   years i.e. 2002 - 2003, 2003 - 2004 and 2004 - 2005 imports are greater than
   exports.
   Therefore, Correct option is '2'

5. Average of imports in the span of 2000 - 2005
   Average of exports in the span of 2000 - 2005
   Therefore, Difference = 470 - 400 = 70
   Therefore, Correct option is '4'

Exercise Questions

Directions for Questions 1 to 4: Answer the questions on the basis of the information given below. Purana and Naya are two brands of kitchen mixer- grinders available in the local market. Purana is an old brand that was introduced in 1990, while Naya was introduced in 1997. For both these brands, 20% of the mixer- grinders bought in a particular year are disposed off as junk exactly two years later. It is known that 10 Purana mixer -grinders were disposed off in 1997. The following figures show the number of Purana and Naya mixer-grinders in operation from 1995 to 2000, as at the end of the year.
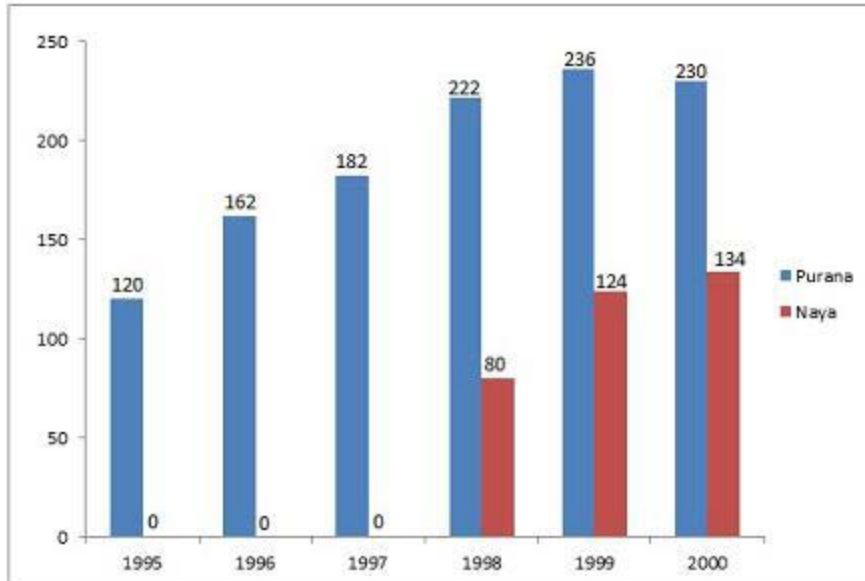
1. How many Naya mixer -grinders were purchased in 1999?

a. 44
b. 50
c. 55
d. 64

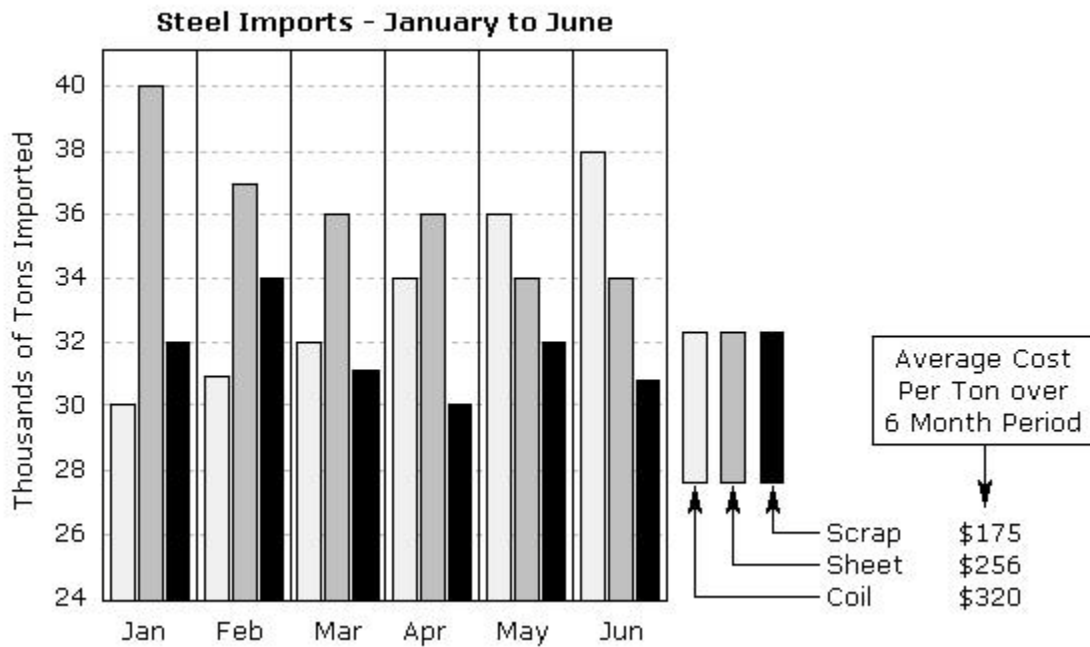2. How many Naya mixer -grinders were disposed off by the end of2000?

a. 10
b. 16
c. 22
d. Cannot be determined from the data

3. How many Purana mixer-grinders were purchased in 1999?

a. 20
b. 23
c. 50
d. Cannot be determined from the data

4. How many Purana mixer-grinders were disposed off in 2000?

a. 0
b. 5
c. 6
d. Cannot be determined from the data

Steel Imports - January to June

The table above shows imports for three types of steel over a six month period. Use this information to answer the following questions.

5. Which month showed the largest decrease in total imports over the previous month?

a. Feb
b. Mar
c. April
d. May

6. What was the total value of sheet steel (in $) imported over the 6 month period?

a. 56,750
b.75,300
c. 55,550
d. 42,370

7. What was the percentage of scrap steel imported in the 6 month period?

a. 37.5
b. 35.2
c. 36.1
d. 31.2

8. What was the difference (in thousands of tons) between coil steel and sheet steel imports in the first 3 months of the year?

a. 10
b.16
c. 18
d. 20

9. What was the approximate ratio of sheet steel and coil steel imports in the first 3 months of the year?
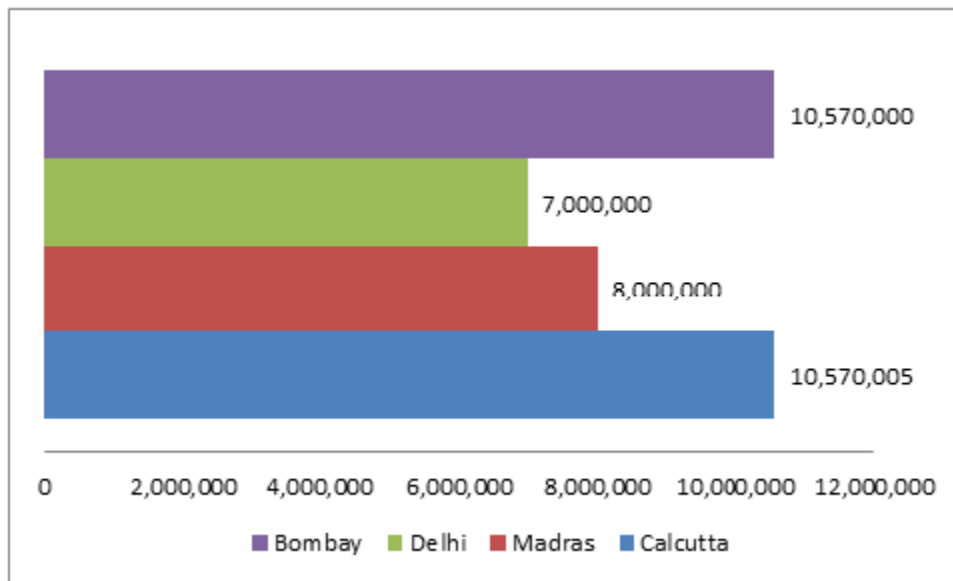
a. 11:9
b. 8:9
c. 7:11
d. 3:8

Answer Key

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

Exercise Questions

Directions for Questions 1 to 2: These Questions are based on the following table.

POPULATION OF FOUR METRO CITIES AT THE BEGINNING OF THE YEAR 1990

1. If Bombay were to become the most populous city at the end of the year, what is the least number of people who must shift to Bombay during the year, given that, every year 1% of its population shifts to other cities (Assume that the population of other metro does not change)?

a. 6

b. 1,04,64,301

c. 1,05,706

d. 1,05,705

2. If the most populous city has 40% female population, and the least has 35% female population, then the difference between male population of these two cities is closest to

a. 60 lakh

b. 57 lakh

c. 17.9 lakh

d. 56 lakh

Directions for questions 3 and 4: These questions are based on the graph given below, which shows the number of deaths due to fire accidents in the summer of 1992.
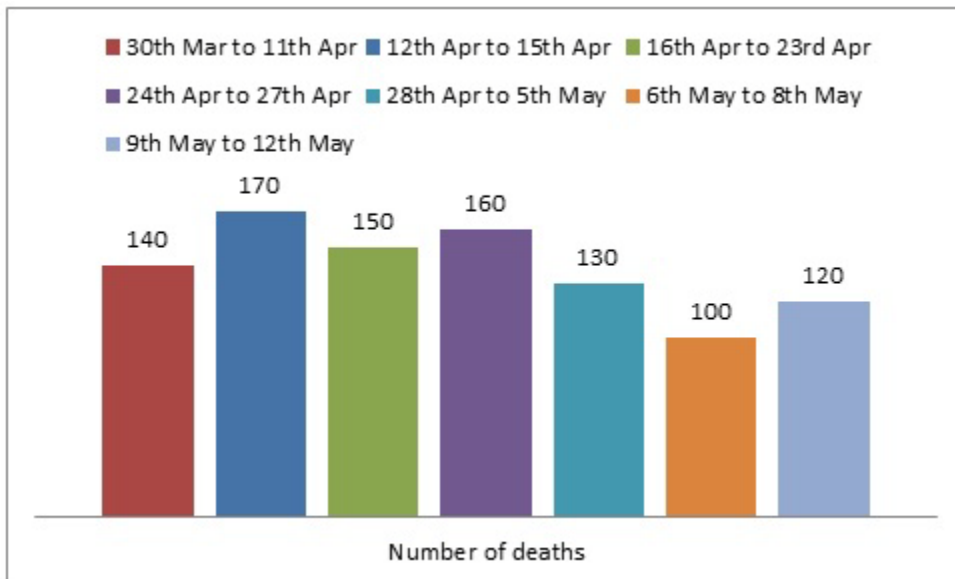
3. The average number of deaths per day during the given period is

a. 22.04

b. 22.5

c. 23.09

d. 21.08

4. Out of the total deaths from 30th March to 8th May, if 22% occurred in place X and 10% of them are because of cigarettes, then the number of fire accidents for the given period in place X because of cigarettes is approximately.
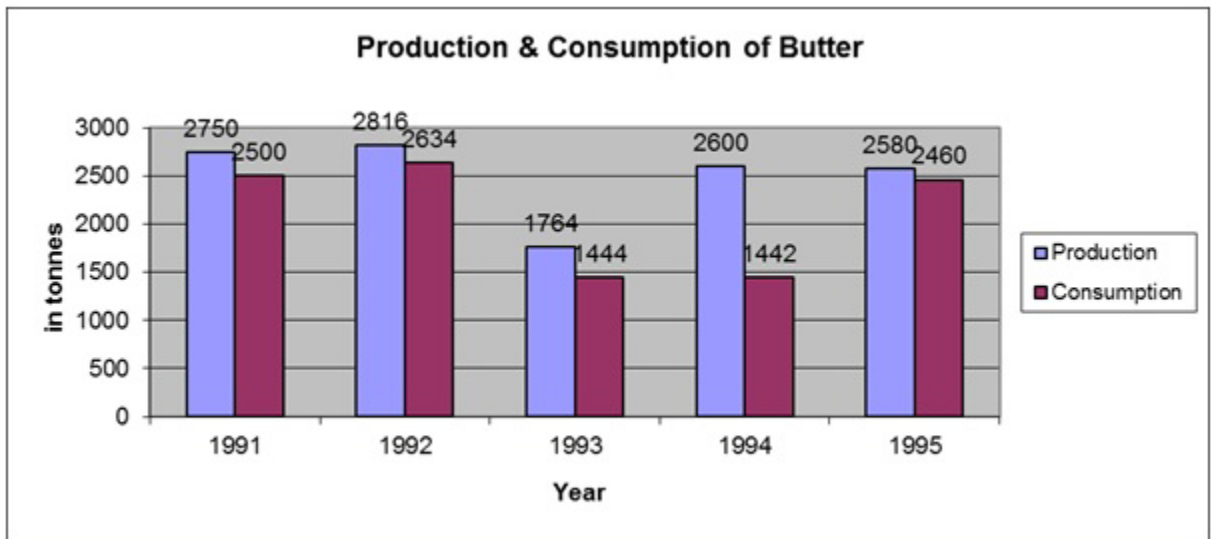
 a. 19

b. 20

c. 22

d. 23

Directions for questions 5 to 7: These questions are based on the following bar diagram.

Production & Consumption of Butter

5. The average production for the last three years when compared with the average production for the first three years has dropped by

a.5%

b.3%

c.9%

d.7%

6. If Left over = Production – Consumption, then the year in which there is the least left over as a percentage of production is

a.1995

b.1992

c.1991

d.1993

7. Which of the following statements is true?

a. There is a steady increase in production from 1991 to 1995.

b. The consumption is increasing and decreasing in alternate years.

c. The steepest increase in production immediately follows the steepest fall in consumption.

d. None of the above.

Directions for questions 8 to 10: These questions are based on the following bar diagrams.

COMMERCIAL VEHICLES
(Lakh Units)

■ 1992-93 ■ 1993-94

	Production	Sales
1992-93	12.86	12.06
1993-94	14.14	15.08
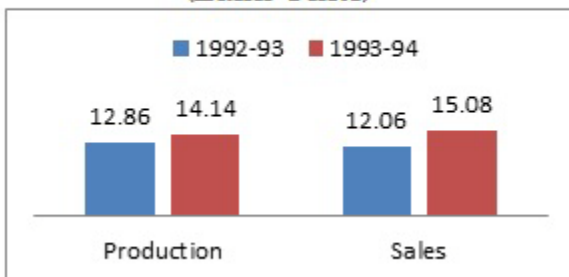
PASSENGER CARS
(Lakh Units)

■ 1992-93 ■ 1993-94

	Production	Sales
1992-93	16.31	16.48
1993-94	20.97	21.07

Note:

1. The players in the Commercial Vehicle Segment are Ashok-Leyland, Telco, Bajaj Tempo and DCM-Toyota.

2. The players in the Passenger Car Segment are Hind Motors, Maruti and Premier Auto.

8. What was the percentage increase in the sales of commercial vehicles over the one year period mentioned?

a.25%

b.16%

c. 33 1/3%

d. 22 6/7%

9. If Bajaj Tempo had a 10% share of the commercial vehicles market and sold its vehicles at 10% less than the list price, what were its sales (in rupees) in 1993-94, if the list price of its vehicles was Rs.10,000?

a.13572 crore

b.167.25 lakh

c.135.72 crore

d.167.25 crore

10. Which of the following is true of the percentage increase in the sales of passenger cars for the given period?

a. It was higher than the percentage increase in the production of cars for the given period.

b. It was lower than the percentage increase in the production of cars for the given period.

c. It was equal to the percentage increase in the production of cars for the given period.

d. Insufficient information to decide.

Answers & Explanations:

1. Exp: 1% shift = 105700

   Also, Calcutta is 5 more than Bombay initially, so a minimum of 105706 people should come to Bombay for it to become the most populous city.

2. Exp: 10570005 x 0.6 – 7000000 x 0.65 =

   6 3 4 2 0 0 3

   4 5 5 0 0 0 0

   ----

   1 7 9 2 0 0 3

3. Exp: 970/44 = Total deaths/Total days = 22.04.

4. Exp: 850 x 0.22 x 0.1 = 19.

5. Reqd. %

   $$= [2750 + 2816 + 1764 - (1764 + 2600 + 2580)/2750 + 2816 + 1764] \times 100$$

   Required % = 386/7330 x 100 = 5.26%

   lesser by 5.26% ≈ 5%   Choice(1)

6. By observation it is the least in 1995. Choice(1)

7. By observation, only statement three is true. Choice(3)

8. Percentage increase 3.02/12.06 *100= 25   Choice(1).

9. Sales of Bajaj Temp 1993-94

   1.508 x 10^5 x 9000 = Rs.135.72 crores.   Choice(3).

10. The % increase of sales of cars = 4.59/16.48 *100n≈ 27.5%

This is lower than the % increase in production of cars which is 28.57%. Choice(2).