

DATA INTERPRETATION AND DATA SUFFICIENCY

Data Interpretation

$$\text{Percentage change} = \frac{\text{Final Value} - \text{Initial value}}{\text{Initial value}} \times 100$$

$$\text{Market share} = \frac{\text{Sales of a particular brand}}{\text{Sum of sales of all brands in that category}} \times 100$$

$$\text{Percentage higher} = \frac{\text{Compared value} - \text{Base value}}{\text{Base value}} \times 100$$

$$\text{Percentage lower} = \frac{\text{Base value} - \text{Compared value}}{\text{Base value}} \times 100$$

Points to note while solving Data interpretation questions

- Read the directions carefully and understand the information given in the chart.
- Never ignore the units (in millions, in thousands, etc).
- Read the questions carefully to find out if you are asked to find the absolute change or percentage change in value.
- Wherever possible, try to solve questions using approximation techniques to save time.

Data Sufficiency

- Read one piece of data at a time completely ignoring the second. Reading everything at once may lead to confusion.
- Do not rely on a visual assessment of a diagram accompanying a geometry question to determine angles, sizes, parallel lines, etc.
- Do not get into complicated or lengthy calculations when they can be avoided.
- This section tests only your ability to determine if the given data is sufficient to answer a question and not the exact answer to the question.

Drill

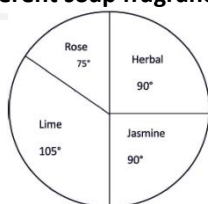
- The following table gives the sales of different varieties of soaps manufactured by a company over a six year period. Study the table and answer the questions that follow.

Table: Soaps (in '000s) sold by ABC Ltd. from 2007 till 2012

Year	Soap Fragrance			
	Rose	Herbal	Jasmine	Lime
2007	108	102	144	75
2008	126	84	126	90
2009	135	105	114	96
2010	75	90	90	105
2011	90	75	75	90
2012	120	45	60	105

- In which year is the total sales of soaps the greatest?
 - Which fragrance recorded a continuous decrease in sales during the given period?
 - What is the difference in the number of lime fragrance soaps sold in 2010 and 2011?
- Study the following pie chart, which shows the sales of different types of soaps in 2010. Study the graph carefully and answer the questions given below.

Chart: Sales of different soap fragrances in the year 2010

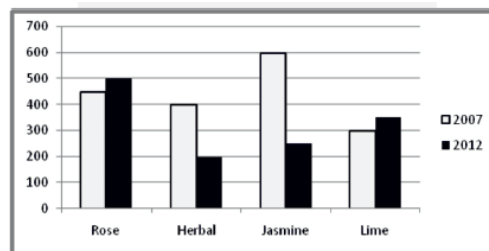


- What percentage of the total soap sales is rose fragrance?

- By what percentage is the sale of lime fragrance soaps greater than that of herbal fragrance soaps?

- A soap company produces 4 different fragrances. The sales of these products during 2007 and 2012 are shown in the following bar graph.

Sales of four different fragrances of a soap company during 2007 and 2012



- Find the percentage increase in the sales of rose fragrance soaps in 2012 over 2007?
- What is the average sales of different fragrances of soaps sold in the year 2012?
- From 2007 to 2012, which fragrance has seen the highest percentage change in sales?

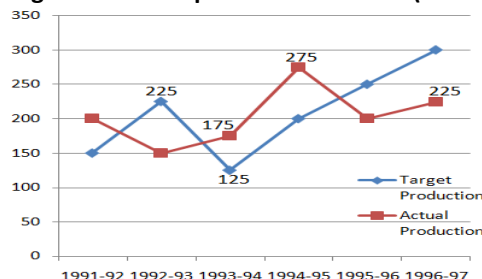
For the following questions, mark your answer as,

- If statement (i) alone is sufficient to answer the question.
 - If statement (ii) alone is sufficient to answer the question.
 - If both statements together are sufficient to answer the question.
 - If either of the statements alone is sufficient to answer the question.
 - If the question cannot be answered using both the statements.
- How many pencils does Rakesh have?
 - Rakesh bought 5 boxes of pencils.
 - Rakesh lent 2 pencils to Murali.
 - Three packages have a combined weight of 50 kg. What is the weight of the heaviest package?
 - First package weighs 15 kg.
 - Second package weighs 25 kg.
 - How is 'food' coded in Jhu Jhu coding system?
 - In Jhu Jhu coding system, 'Always eat healthy food' is coded as 'ha na pa ta'.
 - In Jhu Jhu coding system, 'Enjoy eat healthy food' is coded as 'naha ja pa'.
 - For the question given above, if you have to find the code for 'enjoy', what will your answer be? _____

Concept review questions

Directions for questions 1 to 3: Study the following graph carefully and answer the questions given below.

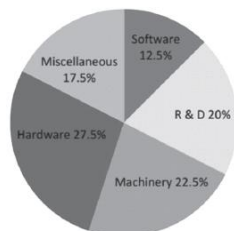
Target and actual production of bolts (in '000s) in a factory



- What is the percentage change in the targeted production from 1994 - 95 to 1995 - 96?

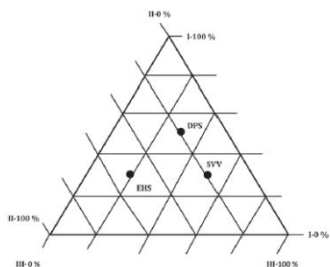
- a. 25.36% b. 36.89% c. 15.4% d. 59.9%
2. In which of the following years was the percentage of actual production with respect to the target production the highest?
a. 1991-92 b. 1992-93 c. 1993-94 d. 1994-95
3. The ratio of the sum of targeted production for the years 1992 - 93, 1995 - 96 and 1996 - 97 to the sum of the actual production for these years is:
a. 1:8 b. 1.3:1 c. 2:1 d. 2:5

Directions for questions 4 to 7: The following pie chart shows the expenditure incurred on the manufacturing of a calculator under various heads. Study the following pie chart carefully and answer the questions given below.



4. The marked price of a calculator is 24% more than its cost price. If the marked price of a calculator is Rs. 186, then what is the cost of R & D used in a single unit of calculator?
a. Rs.37.20 b. Rs.30 c. Rs.42.60 d. Rs.46.50
5. If the machinery charges of a single unit is Rs. 58.50 and the marked price is 30% more than the cost price, then what is the marked price of the calculator?
a. Rs.338 b. Rs.376 c. Rs.352 d. Rs.384
6. If the profit is 20% and the selling price of a calculator is Rs. 192, then how much money has been spent on it as miscellaneous charges?
a. Rs.33.60 b. Rs.40.32 c. Rs.28 d. Rs.84
7. What is the cost price of a calculator on which the cost of R & D and machinery charges amount to Rs. 127.50?
a. Rs.255 b. Rs.54.18 c. Rs.382.50 d. Rs.300

Directions for questions 8 to 10: The following triangular diagram shows the percentage of students who passed in 12th class in I division, II division or III division. The students belong to 3 schools EHS (Emerson Heights School), DPS (Daily Public School) and SVV (Sahitya Vidya Vihar). The number of students in EHS, DPS and SVV are 500, 750 and 470 respectively. Refer the diagram to answer the following questions.



8. The total number of students passing in division III from the three given schools is
a. 560 b. 575 c. 520 d. 540
9. The total number of students passing in division II forms what percentage of the total students in standard XII in the three schools?
a. 34% b. 38% c. 28.7% d. 31.2%

10. The ratio of total number of students passing in division II from DPS to the total number of students passing in division III from SVV is
a. 24:32 b. 27:34 c. 32:40 d. 30:47

Directions for questions 11 to 15: For the following questions, mark your answer as

- a) If statement (i) alone is sufficient to answer the question.
b) If statement (ii) alone is sufficient to answer the question.
c) If both statements together are sufficient to answer the question.
d) If either of the statements alone is sufficient to answer the question.
e) If the question cannot be answered using both the statements.
11. What is the distance from City A to City C?
I. City A is 90 km from City B II. City B is 30 km from City C
12. Is the smallest of five consecutive integers even?
I. The product of the five integers is 0
II. The arithmetic mean of the five integers is 0
13. John studies Chinese in a school. Which school does he attend?
I. All students in Jefferson High School take French
II. Maysville High School offers only Chinese
14. Among five friends A, B, C, D and E who is the tallest?
I. D is taller than A and C II. B is shorter than E but taller than D
15. A piece of string 6 feet long is cut into three smaller pieces. How long is the longest of the three pieces?
I. Two pieces are of the same length
II. One piece is 3 feet 2 inches long

Directions for questions 15 to 20: Mark your answer as:

- a) If the question can be answered by using statement I alone but not using II alone (or) by using statement II alone but not using I alone.
b) If the question can be answered using statement I alone as well as using statement II alone.
c) If both I and II together are together sufficient, but neither of the statements alone is sufficient to determine the answer to the question.
d) If statements I and II together are not sufficient to determine the answer to the question.
16. Can a democratic system operate without effective opposition?
I. The opposition is indispensable.
II. A good statesman always learns more from his opponents than from his fervent supporters.
17. What is Raju's age?
I. Raju, Vimala and Kishore are all of the same age.
II. Total age of Vimala, Kishore and Abishek is 32 and Abishek is as old as Vimala and Kishore together.
18. Is Sreedhar eligible for an entry pass to the company premises?
I. The company does not allow strangers to enter the company.
II. All employees are eligible to get a pass.
19. In an election, three candidates A, B and C were contesting. How many votes did each receive?
I. A received 1005 votes more than B and 1212 more votes than C.
II. Total votes cast were 15,414.
20. How many rolls of wallpaper are necessary to cover the walls of a room whose floor and ceiling are rectangles 12 feet wide and 15 feet long?
I. A roll of paper covers 20 sq feet.
II. There are no windows in the wall.