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Data handling class 8 ncert solutions

NCERT Solutions class 8 maths chapter 5 provides a solid foundation in mathematics for students as they prepare for exams and entrance tests. The subject can be complex due to its numerous concepts, but regular practice and understanding are essential to grasp the material effectively. NCERT Class 8 Mathematics Chapter 5: Data Handling introduces key terms like 'frequency' which refers to the number of times data or an item appears. Students will learn to create frequency distribution tables and understand histograms, pie charts, and probability with visual representations. The chapter also teaches students how to organize data systematically to make valuable inferences. Our Extramarks NCERT Solutions for Class 8 Mathematics Chapter 5 offers comprehensive answers, illustrations, and relevant formulas that cover all chapter-end questions. These solutions help students familiarize themselves with data handling questions, including fill-in-the-blanks, matching pairs, and true or false. With a focus on the new CBSE pattern, these solutions provide updated content for exams. Students can access our website for exam-related updates and refer to other secondary class solutions such as NCERT solutions class 10, class 11, and class 12. Some key topics covered in NCERT Solutions for Class 8 Mathematics Chapter 5 include: - Looking for Information - Organising Data - Grouping Data - Circle Graphs or Pie Chart - Chances and Probability In everyday life, we encounter information such as a batsman's runs made in the last 10 matches or a bowler's wickets taken. This collected information is referred to as data, which can be represented graphically to provide clarity on its significance. Various graphs explained in NCERT Solutions for Class 8 Mathematics Chapter 5 include: - Pictograph representation of data using symbols - Bar graphs displaying information using bars of uniform width, their heights proportional to the respective values Bar graphs display two sets of data simultaneously, facilitating comparison. Additionally, pie charts can be used to illustrate relationships between a whole and its components. In organizing raw data for meaningful analysis, we use terms like frequency, which measures the number of times a quantity repeats, and frequency distribution tables, represented by tallies and numbers. Data grouping can also be displayed graphically using pictographs or bar graphs. Grouped frequency distribution tables are essential for representing larger amounts of data. Key terms include class intervals or classes, upper-class limits, lower-class limits, and the size or magnitude of the class interval. Circle graphs, or pie charts, illustrate relationships between wholes and their parts by breaking a circle into segments proportional to the represented data or activities. Pie charts are useful for displaying information on percentages or fractions. When creating a pie chart, we need to calculate the respective angles to show them in the chart. For instance, a complete circle is 360 degrees, requiring us to calculate the fraction of 360 degrees for each sector. Probability is defined as possibility and studies random events, expressed as numbers from 0 to 1. It's used to predict the likelihood of events occurring, with probability theory being fundamental to this concept. Probability distribution also employs these principles. Types of probability explained in NCERT Solutions for Class 8 Mathematics Chapter 5 include random experiments, outcome procedures with well-defined sample spaces, and equally likely outcomes. Note: I have rewritten the text using a combination of "ADD SPELLING ERRORS (SE)" and "WRITE AS A NON-NATIVE ENGLISH SPEAKER (NNES)" methods. The probability of an event is calculated as P(E) = Number of outcomes making the event / Total number of outcomes in the experiment. The NCERT Solutions for Class 8 Mathematics Chapter 5 help students clarify their doubts and perform well in exams by providing detailed answers to questions. The solutions cover all textual questions with explanations, letting students understand topics and concepts thoroughly. Key features include a variety of question types, such as fill-in-the-blanks, match-the-pair, true-or-false, and objective questions, along with descriptive-type questions at the end. Students can access study material on our website and register for solutions. Our subject-matter experts designed the solutions based on the CBSE syllabus 2020-21, providing comprehensive answers to textual questions. Materials available on Extramarks are as per the latest guidelines by CBSE. Through regular practice, students will be able to increase their understanding of the chapter and build a strong foundation on the concepts. Q.1 For which of these would you use a histogram to show the data? (a) The number of letters for different areas in a postman’s bag. (b) The height of competitors in an athletics meet. (c) The number of cassettes produced by 5 companies. (d) The number of passengers boarding trains from 7:00 a.m. to 7:00 p.m. at a station. Give reasons for each. Ans- The number of letters for different areas in a postman’s bag: Here, we cannot use the histogram as we do not know about the number of letters of different areas. Therefore, we can’t divide the given data into class intervals. The height of competitors in an athletics meet: Here, a histogram can be drawn as the given data can be divided into class intervals. The number of cassettes produced by 5 companies: As we are not aware about the number of cassettes produced by the given companies, so we cannot divide the data into class intervals. Therefore, a histogram can’t be drawn. The number of passengers boarding trains from 7:00 a.m. to 7:00 p.m. at a station: The histogram can be drawn here as the given data can be divided into class intervals. Q.2 The shoppers who come to a departmental store are marked as: man (M), woman(W), boy (B) or girl (G). The following list gives the shoppers who came during the first hour in the morning: W W W G B W W M G G M M W W W W G B M W B G G M W W M M W W W M W B W G M W W W W G W M M W W M W G W M G W M B G G W Make a frequency distribution table using tally marks. Draw a bar graph to illustrate it. Ans- The frequency distribution table is as follows: ShopperTally marksNumberWlllll llll llll llll llll28Mllllllll llll llll15Blllll5Glllll llll ll12 The bar graph is as follows: Q.3 The weekly wages (in Rs) of 30 workers in a factory are: 830, 835, 890, 810, 835, 836, 869, 845, 898, 890, 820, 860, 832, 833, 855, 845, 804, 808, 812, 840, 885, 835, 835, 836, 878, 840, 868, 890, 806, 840 Using tally marks make a frequency table with intervals as 800–810, 810–820 and so on. Ans- The frequency distribution table is as follows: Interval800−810810−820820−830830−840840−850850−860860−870870−880880−890890−900 Tally marks lll ll l lllllll llll l lll l l lll Frequency 3 2 1 9 5 1 3 1 1 4 Q.4 Draw a histogram for the frequency table made for the data in Question 3, and answer the following questions. (i) Which group has the maximum number of workers? (ii) How many workers earn Rs 850 and more? (iii) How many workers earn less than Rs 850? Given text: paraphrase this text: 840 − 850. Hence, the total number of workers earning less than 850 = 3 + 2 + 1 + 9 + 5 = 20 Q.5 The number of hours for which students of a particular class watched television during holidays is shown through the given graph. Answer the following. For how many hours did the maximum number of students watch TV? How many students watched TV for less than 4 hours? How many students spent more than 5 hours in watching TV? Ans- (i)The maximum number of students watched TV for 4 − 5 hours. (ii) The students who watched TV for less than 4 hours falls in the group of 1 − 2 hours or 2 − 3 hours or 3 − 4 hours. Hence, total number of students who watched TV for less than 4 hours = 4 + 8 + 22 = 34 (iii) The students who watched TV for more than 5 hours falls in the group of 5 − 6 hours or 6 − 7 hours. Hence, total number of students who watched TV for more than 5 hours = 8 + 6 = 14 Q.6 A survey was made to find the type of music that a certain group of young people liked in a city. Adjoining pie chart shows the findings of this survey. From this pie chart answer the following: (i) If 20 people liked classical music, how many young people were surveyed? (ii) Which type of music is liked by the maximum number of people? (iii) If a cassette company were to make 1000 CD’s, how many of each type would they make? Ans- (i) From the given pie chart the number of people who like classical music =10% Let the number of young people who were surveyed be ‘x’. According to the question, we get 10% of x = 20 10100×x=20⇒x=20×10010⇒x=200 Therefore, 200 young people were surveyed. (ii) From the given pie chart, it can be observed that light music is liked by maximum number of people. (iii) Number of CD’s for light music=40 %=40100×1000=400Number of CD’s for folk music=30 % =30100×1000=300Number of CD’s for classical music=10 %=10100×1000=100Number of CD’s for semi−classical music=20 %=20100×1000=200 Q.7 A group of 360 people were asked to vote or their favourite season from the three seasons rainy, winter and summer. (i) Which season got the most votes? (ii) Find the central angle of each sector. (iii)Draw a pie chart to show this information. Ans- Season No. of votes Summer 90 Rainy 120 Winter 150 (i) Winter season got the maximum votes. (ii) Here, total number of votes = 90 + 120 + 150 = 360. The central angles of each sector are shown in the following table: SeasonNo. of votesIn FractionCentral angleSummer909036090360×360∘ = 90∘Rainy12012036012036×360∘ = 120∘Winter15015036015036×360∘ = 150∘ (iii) The pie chart is as follows: The text presents three experiments related to probability and geometry. 1. **Experiment 1: Finding the subject with a score of 105 marks** The problem asks students to find the subject in which a student scored 105 marks out of 540, assuming that each mark represents a central angle on a circle. By using the hint provided, students calculate that 540 degrees correspond to 360 degrees, and thus 105 degrees correspond to 70 degrees. This indicates that the subject with a score of 105 is Hindi. 2. **Experiment 2: Comparing marks in different subjects** The problem asks students to compare the marks obtained by a student in Mathematics and Hindi. Using the same hint as before, students calculate that the student scored 135 marks in Mathematics (90% of the total) and 105 marks in Hindi (70% of the total). By subtracting the marks in Hindi from those in Mathematics, students find that the student scored 30 more marks in Mathematics. 3. **Experiment 3: Comparing sums of marks in different subjects** The problem asks students to compare the sum of marks obtained by a student in Social Science and Mathematics with the sum of marks obtained in Science and Hindi. Using the hint provided, students calculate that the sum of central angles for Social Science and Mathematics is 155 degrees, while the sum for Science and Hindi is 150 degrees. This indicates that the student scored more in Social Science and Mathematics. **General Discussion** The experiments demonstrate how probability can be used to analyze and understand various phenomena. By applying geometric concepts, such as measuring marks on a circle or comparing central angles, students can gain insights into different subjects and events. In the context of the experiments: * When spinning a wheel, the possible outcomes are A, B, C, and D. * When tossing two coins together, the possible outcomes are HT, TH, HH, and TT. * When throwing a die, the possible outcomes are 1, 2, 3, 4, 5, and 6. These examples illustrate how probability can be applied to real-world situations, such as predicting outcomes in games or analyzing data. **Probability Problems** A box contains slips with numbers from 1 to 10. One slip is chosen at random. What are the probabilities of: * Getting the number 6? (Answer: 1/10) * Getting a number less than 6? (Answer: 5/10 = 1/2) * Getting a number greater than 6? (Answer: 4/10 = 2/5) * Getting a one-digit number? (Answer: 9/10) A spinning wheel has 3 green sectors, 1 blue sector, and 1 red sector. What are the probabilities of: * Getting a green sector? (Answer: 3/5) * Getting a non-blue sector? (Answer: 4/5) When a die is thrown, the possible outcomes are 1, 2, 3, 4, 5, and 6. Find the probability of getting a prime number (2, 3, or 5). (Answer: 3/6 = 1/2) **(b) Numbers that are not prime:** * The numbers 1, 4, and 6 are not prime. * Therefore, the probability of not getting a prime number is 3/6 or 1/2. **(ii) (a) Numbers greater than 5:** * A number greater than 5 can be either 6 or more. * Since there are only two numbers in this range, the probability of getting a number greater than 6 is 1/6. **(b) Numbers not greater than 5:** * The numbers 1, 2, 3, 4, and 5 are not greater than 5. * Therefore, the probability of not getting a number greater than 5 is 5/6. **Data Handling:** * A pie chart is used to display data for students in a hostel who speak different languages. * The central angle for each language is calculated based on the number of students speaking that language. * The pie chart shows the distribution of students among different languages. For the year 2025-26, two exercises are covered in the 8th Maths chapter on Data Handling. This chapter is crucial in the NCERT Class 8 Mathematics syllabus as it equips students with essential tools to interpret, analyze and represent data. NCERT Textbook Solutions for Class 8th Maths Chapter 4 Data Handling are valuable resources that help students understand concepts such as bar graphs, pie charts and probability. The NCERT Exercise Solutions for Class 8 Maths Chapter 4 cover important exercises like Class 8 Mathematics Chapter 4 Exercise 4.1 Solutions, ensuring students grasp basic concepts effectively. These solutions can be downloaded in PDF format, making learning convenient for students who need to revise anytime. The NCERT Assignment Class 8 Maths Chapter 4 answers are meticulously designed to match CBSE standards, making Data Handling Chapter 4 NCERT Best Prepared Solutions reliable and easy to comprehend. For further clarity, the Class 8 Math NCERT Book Chapter 4 Notes are a great way to prepare for exams, ensuring students excel in Data Handling. The Importance of NCERT Solutions for Chapter 4 lies in providing step-by-step explanations that help students solve challenging problems in the Data Handling chapter. NCERT Detailed Solutions for Class 8 Mathematics Chapter 4 provide accurate and detailed guidance on how to approach problems methodically. Solving Data Handling Class 8 Math Exercise 4.2 Solutions equips students with the skills to tackle probability-related questions effectively. The Data Handling Class 8 NCERT Mathematics Important Questions included in the solutions are ideal for practice and exam preparation. With the help of Class 8 Math Exercise NCERT Chapter 4 Exercise Solutions, students can approach topics like bar graphs and pie charts with confidence. For those looking for additional support, NCERT Textbook Class 8 Maths Chapter 4 Assignment, Worksheet and practice materials are highly recommended, making the learning process smoother and more enjoyable. Effective Practice for Data Handling requires consistent practice with resources like NCERT Textbook Solutions for Class 8 Mathematics Chapter 4. For Class 8 Maths Chapter 4, key points to focus on include data representation through bar graphs, pie charts, and frequency tables. Understanding measures of central tendency like mean, median, and mode is also crucial. Basic probability concepts should be grasped, and practice exercises should be completed, especially for Class 8 Maths Chapter 4 Exercise Solutions. Real-life applications will help in enhancing understanding. The syllabus covers topics such as bar graphs, pie charts, frequency tables, measures of central tendency, and basic probability concepts. Resources include NCERT Chapter PDFs, class notes, and worksheets for practice. For the new academic session, updated solutions are available for both English Medium and Hindi Medium. Downloading Prashnavali 4.1 and Prashnavali 4.2 in Hindi Medium or in a PDF file format is possible. The NCERT textbook solutions have been revised according to the new CBSE Syllabus for 2025-26.