Click to verify

Basic percentage questions and answers

We will learn how to apply the concept of percentage for solving some real-life problems.Basic problems on percentage:1. 4. If there are 480 marks, find the maximum marks? Solution: Given, Current price of the washing machine = Rs.8748 The price of the machine depreciated at the rate of 10% every year Therefore, the price of the washing machine three years ago = 8748 ÷ (1 – 10/100)3 = Rs. [8748 x (10/9) x (10/9) x (10/9)] = Rs.12000 Q.7: For a student to clear an examination, he must score 55% marks. What will be the car's value after 5 years?Solution:Initial value of the car = $20,000Depreciation rate = 15% per yearAfter 1 year, the car's value is 85% of the initial value:Year 1 value = 85% of $20,000 = 0.85 × $20,000 = $17,000Similarly, after 2 years, the car's value is 85% of Year 1 value:Year 2 value = 85% of $17,000 = 0.85 × $17,000 = $14,450Continuing this pattern, after 5 years, the car's value is $11,635.Question 19: If a laptop is sold for $450 after applying a 10% discount, what was its original price before the discount?Solution:Let the original price be 'x'.After a 10% discount, the laptop is sold for 90% of the original price:90% of x = $4500.9x = $450x = $450 / 0.9 = $500So, the original price was $500.Question 20: A company's revenue increased by 20% one year and then decreased by 15% the following year. Solution: Given 25% of 100 = 25/100*100 = 25 Therefore, 25% of 100 is 25. Solution: Number of girls in the class = 40 % of 50 = 40/100 × 50 = 2000/100 = 20 Number of boys in the class = Total number of students in the class - Number of girls = 50 – 20 = 30 3. Related Articles Practice Questions on Percentage What is 25% of 80? What is the percent decrease in the price of the shirt? The number so obtained is 10 less than the original number. Whether you're a student getting ready for exams or just want to improve your math skills, understanding percentages is important. Solution: Since 82% cleared the JEE Exam the percentage of students who didn’t clear the exam is 100% – 82% = 18% Total Number of Students = 50 18% of 50 is the students who didn’t clear the exam = 18/100*50 = 900/100 = 9 Therefore, 9 students didn’t clear the JEE Exam. If the company wants to increase the number of testers by 40%, how many more testers need to be hired?Solution:Number of software developers = 60% of 100 = 0.6 × 100 = 60 employeesNumber of testers initially = 100 - 60 = 40 employeesTo increase testers by 40%, 40% of the current number of testers need to be hired:Additional testers needed = 40% of 40 = 0.4 × 40 = 16 testersQuestion 22: A stock's value increased by 25% in the first year and then decreased by 20% in the second year. Percentage calculations are a basic but crucial part of math. Percentage of Jim = 42/50*100 = 84% Therefore, Jim Scored 84% Since Jim scored a higher percentage compared to his brother Ram he scored a better percentage. Vinay gets 82 % marks in examinations. Solution: Total number of votes = 1000 + 5000 + 10000 = 16000 The student who won the votes got 10000 votes Hence, the percentage will be: (10000/16000) x 100% = 62.5% Q.5: If the price of a product is first decreased by 25% and then increased by 20%, then what is the percentage change in the price? Value of the machine after n years = P1-R100n 2. Solution: Original Price = $ 120 New Price = $90 Decreased Value = $120 – $90 = $30 Percentage Decrease = (Decreased Value/Original Value)*100 = 30/120*100 = 25% Therefore, price of pair of trousers are decreased by 25%. How many did not clear it? Suppose it depreciates at the rate R% per annum. If the discounted price is $112.50, what was the original price? Solution:Discounted price = $112.50Discount = Original price - Discounted priceOriginal price = Discounted price + DiscountOriginal price = $112.50 + (25% of $112.50) = $112.50 + $28.13 = $140.63Question 15: If 40% of a number is 64, what is 25% less than that number?Solution:Let the number be 'x'.40% of x = 64(40/100) × x = 64x = (64 × 100) / 40x = 16025% less than that number = 75% of x = 75% of 160 = (75/100) × 160 = 120Question 16: A shopkeeper marked up the price of a product by 60%. What is the final sale price of the shirt?Question 2: If a smartphone's price increased by 10% and then decreased by 5%, what is the net percentage change in its price?Question 3: Maria scored 85% in her math exam. If a customer buys three books, each priced at $20, what is the total cost after the discount?Question 5: A company initially had 500 employees. To express x% as a fraction : We have , x% = x/100. Solution: Given 82% of 480 82/100*m = 480 m = (480*100)/82 = 585 Maximum Marks are 585 Quants Menu HCF and LCM Number System Number Decimals & Fractions Surds and Indices Divisibility Ages LCM HCF Inverse Speed Time and Distance Work and Time Boats and Streams Pipes and Cisterns Averages Allegations and Mixtures Ratio and Proportions Simple & Compound Interest Simple Interest Compound Interest Percentages Profit & Loss Successive Discount 1 Successive Discount 2 AP GP HP Arithmetic Progressions Geometric Progressions Harmonic Progressions Probability Permutation & Combination Combination Circular Permutation Geometry Heights and Distances Perimeter Area and Volume Coordinate Geometry Venn Diagrams Set Theory Algebra Linear Equations Quadratic Equations Logarithms Clocks Calendars Clocks and Calendars Finding remainder of large powers Basic problems on percentage will help us to get the basic concept to solve any percentage problems. Solution: Given, 20% of x = y = (20/100) x = y y% of 20 =(y/100). Solution: Percentage of students passed to class X = 100 % - 10 % = 90 % 90 % of 50 = 90/100 × 50 = 4500/100 = 45 Therefore, 45 students passed to class X. 2. If these are 460 marks, find the maximum marks. Results on Depreciation : Let the present value of a machine be P. The original price of a shirt was $30. Find the number of girls and number of boys in the class? During a sale, the shop offered a discount of 20% on the marked price. To express a/b as a percent : We have, ab=ab×100% . Then, 1. If the company's initial profit was $80,000, what is the final profit after two years?Solution:Initial profit = $80,000After a 25% decrease, the profit becomes 75% of the initial profit:Year 1 profit = 75% of $80,000 = 0.75 × $80,000 = $60,000In the following year, the profit increased by 40%:Year 2 profit = 140% of Year 1 profit = 1.4 × $60,000 = $84,000So, the final profit after two years is $84,000.Question 18: A car was purchased for $20,000 and its value depreciated by 15% each year. Solution: Percentage of Ram = 30/50*100 = 60% Therefore, Ram Scored 60%. Victor gets 92 % marks in examinations. Percentage Questions and Solutions Q.1: A fruit seller had some apples. If the stock's original value was $200, what is its final value after two years?Solution:Original value of the stock = $200After a 25% increase in the first year, the value becomes 125% of the original value:Year 1 value = 125% of $200 = 1.25 × $200 = $250In the second year, the value decreased by 20%, which is 80% of Year 1 value:Year 2 value = 80% of $250 = 0.8 × $250 = $200So, the final value after two years is $200.Question 23: A company's profit decreased by 10% one year and increased by 15% the following year. What is the total number of apples he had originally? 7. Thus x percent means x hundredths, written as x%. If the company's initial revenue was $150,000, what is the final revenue after two years?Solution:Initial revenue = $150,000After a 20% increase, the revenue becomes 120% of the initial revenue:Year 1 revenue = 120% of $150,000 = 1.2 × $150,000 = $180,000In the following year, the revenue decreased by 15%:Year 2 revenue = 85% of Year 1 revenue = 0.85 × $180,000 = $153,000So, the final revenue after two years is $153,000.Question 21: A software company hired 100 employees, of which 60% are software developers and the rest are testers. If we say, 5%, then it is equal to 5/100 = 0.05. 20 = [(20x/100) / 100] x 20 = 4x/100 = 4% of x Q.4: Three students contested an election and received 1000, 5000 and 10000 votes, respectively. All the materials here are formulated according to the NCERT curriculum and the latest CBSE syllabus (2022-2023). What is the discounted price?Solution:Original price = $250Discount = 20% of $250 = (20/100) × $250 = $50Discounted price = Original price - Discount = $250 - $50 = $200Question 5: If 40% of a number is 120, what is 10% of the same number?Solution:Let the number be 'x'.40% of x = 120(40/100) × x = 120x = (120 × 100) / 40x = 30010% of the same number = 10% of 300 = (10/100) × 300 = 30Question 6: If 15% of a number is 45, what is 30% of the same number?Solution:Let the number be 'x'.15% of x = 45(15/100) × x = 45x = (45 × 100) / 15x = 30030% of the same number = 30% of 300 = (30/100) × 300 = 90Question 7: A store reduced the price of a product by 25%. If the exam had 50 questions, how many questions did she answer correctly?Question 4: A bookstore offers a 15% discount on all books. In this collection of percentage questions, we've made it easy for you to practice and learn this essential math concept.Our team of experts has created these questions to align with the latest exam formats and follow the NCERT curriculum and CBSE syllabus for the latest pattern. FACTS AND FORMULAE FOR PERCENTAGE QUESTIONS I.Concept of Percentage : By a certain percent , we mean that many hundredths. Or want to know more information about Math Only Math. In final exam of class IX there are 50 students 10 % students failed. Fraction into PercentagePercentage into FractionPercentage into RatioRatio into PercentagePercentage into DecimalDecimal into PercentagePercentage of the given QuantityHow much Percentage One Quantity is of Another?Percentage of a NumberIncrease PercentageDecrease PercentageBasic Problems on PercentageSolved Examples on PercentageProblems on PercentageReal Life Problems on PercentageWord Problems on PercentageApplication of Percentage 8th Grade Math Practice From Basic Problems on Percentage to HOME PAGE Didn't find what you were looking for? If the original price was $150, what is the final selling price?Solution:Original price = $150Increase = 20% of $150 = (20/100) × $150 = $30Price after the increase = Original price + Increase = $150 + $30 = $180Reduction = 15% of $180 = (15/100) × $180 = $27Final selling price = Price after the increase - Reduction = $180 - $27 = $153Question 13: A student scored 75% in a test. If the total marks in the test were 200, how many marks did the student score?Solution:Percentage score = 75%Total marks = 200Marks scored = (75/100) × 200 = 150Question 4: A discount of 20% is applied to a $250 item. Solution: Let the number be X. Find the percentage change, when a number is changed from 100 to 80. The price of a pair of trousers was decreased from 120$ to 90$. As per the given question, (100 – 40%) of x = 420 60% of x = 420 60/100 x = 420 X = 700 Hence, the fruit seller had a total of 700 apples Q.2: A person multiplied a number by 3/5 instead of 5/3, What is the percentage error in the calculation? In a class of 50 students, 40 % are girls. To help you understand various questions on Percentage easily we have provided detailed solutions for each and everything. If the price of a commodity increases by R%, then the reduction in consumption so as not to increase the expenditure is R100+R×100% If the price of the commodity decreases by R%,then the increase in consumption so as to decrease the expenditure is R100-R×100% III. He sells 40% apples and still has 420 apples. What is the percentage of 50 paise to 4 rupees? If he gets 120 and fails by 78 marks, what is the total marks for the examination? New final price = 120 % of (75 % of Rs. 100) = Rs. [(120/100) x (75/100) x 100] = Rs. 90 Therefore, the net change in price is 100 – 90 = 10. Solution: 80% of 40 = 80/100 × 40 ⅘ of 25 = ⅘ × 25 Required value = (80/100) × 40 – (4/5) × 25 = 32 – 20 = 12 Q.9: A number is decreased by 10% and then increased by 10%. If the total marks in the test were 150, how many marks did the student score?Solution:Percentage score = 80%Total marks = 150Marks scored = (80/100) × 150 = 120Question 9: A discount of 15% is applied to a $180 item. Solution: Let the original price be Rs. 100. Each question is designed to help you become more confident in dealing with percentages and solving related problems.Join us as we explore the world of percentages and provide you with a user-friendly way to master this important aspect of mathematics.Percentage Formulas Percentage Calculation:Percentage = (Part / Whole) × 100%Percentage Change:Percentage Change = ((New Value - Old Value) / Old Value) × 100%Percentage of a Number:Percentage of a Number = (Percentage / 100) × NumberPercentage Profit and Loss:Percentage Profit = ((Selling Price - Cost Price) / Cost Price) × 100%Percentage Loss = ((Cost Price - Selling Price) / Cost Price) × 100%Discount Percentage:Discount Percentage = (Discount / Marked Price) × 100%Simple Interest:Simple Interest = (Principal × Rate × Time) / 100Compound Interest:Compound Interest = Principal \times \left(\left(1 + \frac{Rate}{100}\right)^{Time} - 1\right)Percentage Questions with SolutionsQuestion 1: If 25% of a number is 30, what is the number?Solution:Let the number be 'x'.25% of x = 30(25/100) × x = 30x = (30 × 100) / 25x = 120Question 2: A store increased the price of a product by 15%. Thus, 20% = 20/100 = 1/5; 48% = 48/100 = 12/25, etc. 5. What is 25% of 100? Who scored percentage is better? Solve the Tricky Questions prevailing here regarding the Concept Percentage and improve your conceptual knowledge. Thus, 14=14×100%=25% II. What was it last year? Solution: Given, the mark obtained by the student is 120 and the student fails by 78 marks Therefore, the passing marks is = 120+78 = 198 Let us consider, the total marks be x Then, ⇒ (55/100) × x = 198 ⇒ x = 360 Q.8: By how much is 80% of 40 greater than 4/5 of 25? Population n years ago = P1+R100n IV. Population after n years = P1+R100n 2. What was the original number? Over the years, they hired 40% more employees and then laid off 15% of the total workforce. 6. Solution: 5 : 4 = 5/4 = ((5/4) x 100)% = 125%. What is the discounted price?Solution:Original price = $180Discount = 15% of $180 = (15/100) × $180 = $27Discounted price = Original price - Discount = $180 - $27 = $153Question 10: If 30% of a number is 90, what is 20% of the same number?Solution:Let the number be 'x'.30% of x = 90(30/100) × x = 90x = (90 × 100) / 30x = 30020% of the same number = 20% of 300 = (20/100) × 300 = 60Related Resources:Percentage ChangePercentage IncreasePercentage DecreaseQuestion 11: If 18% of a number is 72, what is 45% of the same number?Solution:Let the number be 'x'.18% of x = 72(18/100) × x = 72x = (72 × 100) / 18x = 40045% of the same number = 45% of 400 = (45/100) × 400 = 180Question 12: A store initially increased the price of a product by 20% and then reduced the resulting price by 15%. In a class of 50 students, 82 % of the students cleared the JEE exam. These percentage problems are prepared by our subject experts, as per the latest exam pattern. 1. 50 is what percentage of 500? If the company's initial revenue was $250,000, what is the final revenue after two years?Solution:Initial revenue = $250,000After a 15% increase, the revenue becomes 115% of the initial revenue:Year 1 revenue = 115% of $250,000 = 1.15 × $250,000 = $287,500In the following year, the revenue decreased by 10%, which is 90% of Year 1 revenue:Year 2 revenue = 90% of $287,500 = 0.9 × $287,500 = $258,750So, the final revenue after two years is $258,750.Percentages Practice Questions - UnsolvedQuestion 1: A shirt originally costs $40, but it is on sale for 25% off. What is the Percentage Decrease? Solution: Let the maximum marks be m Then 92 % of m = 460 ⇒ 92/100 × m = 460 ⇒ m = (460 × 100)/92 ⇒ m = 46000/92 ⇒ m = 500 Therefore, maximum marks in the examinations are 500. x – (99/100) x = 10 Hence, x =1000 Q.10: What is the percentage of ratio 5:4? How many employees remain?Percentages Practice Questions Unsolved - AnswersAns1=$30 ;Ans2=4.5% increase ;Ans3=42.5 questions correct Ans4=$51 Ans5=595 employees Percentage Questions with answers are provided here. If the original price was $200, what is the discounted price?Solution:Original price = $200Reduction = 25% of $200 = (25/100) × $200 = $50Discounted price = Original price - Reduction = $200 - $50 = $150Question 8: A student scored 80% in a test. 3. It is denoted by %. Learn How to Calculate Percentage here at BYJU’S with easy steps. Solution: Consider the population of town last year as x 30, 000 = x(1+3/100) 30, 000 = x(103/100) (30, 000*100)/103 = x x = 29126 Population of Town Last Year is 29, 126. If the original price was $80, what is the new price? Solution:Original price = $80Increase = 15% of $80 = (15/100) × $80 = $12New price = Original price + Increase = $80 + $12 = $92Question 3: A student scored 75% in a test. What is 30 % of 80?Solution:30 % of 80= 30/100 × 80= (30 × 80)/100= 2400/100= 24 2. After that, It was reduced to $15. How many students passed to class X? Ram scored 30 marks out of 50 marks and his elder brother Jim scored 42 marks out of 50 marks. If the customer paid $180, what was the original marked price?Solution:Let the original marked price be 'x'.Marked up price = 160% of x = 1.6xAfter a 20% discount, the customer paid $180:80% of marked up price = $1800.8x = $180x = $180 / 0.8 = $225So, the original marked price was $225.Question 17: A company's profit decreased by 25% one year and increased by 40% the following year. Definition: Percentage is derived from the Latin word “per centum”. Learn several problems on Percentage here and get an idea of the concept in a better way. Solution: Percentage of marks scored by Ron = (344/400 × 100) % = (34400/400) % = (344/4) % = 86 % Percentage of marks scored by Ben = (582/600 × 100) % = (58200/600) % = (582/6) % = 97 % Hence, the percentage marks scored by Ben is better. Share this page: What’s this? Try to apply the concept of Percentage in your day to day scenarios and get the solutions immediately. Students can practise these questions based on percentages to prepare for the upcoming exams. Results on Population : Let the population of the town be P now and suppose it increases at the rate of R% per annum, then : 1. What was the cost price of the laptop before the profit was added?Solution:Let the cost price be 'x'.After a 20% profit, the selling price becomes 120% of the cost price:120% of x = $8001.2x = $800x = $800 / 1.2 = $666.67 (rounded to two decimal places)So, the cost price of the laptop before the profit was added was approximately $666.67.Question 25: A company's revenue increased by 15% one year and then decreased by 10% the following year. If the total marks in the test were 250 and the passing marks were 40% of the total marks, did the student pass the test?Solution:Percentage score = 75%Total marks = 250Passing marks = 40% of 250 = (40/100) × 250 = 100Since the student scored 75%, which is less than 100, the student did not pass the test.Question 14: A discount of 25% is applied to an item. Value of the machine n years ago = P1-R100n V. Percentage decrease = 10% Q.6: The value of a washing machine depreciates at the rate of 10% every year. If the company's initial profit was $120,000, what is the final profit after two years?Solution:Initial profit = $120,000After a 10% decrease, the profit becomes 90% of the initial profit:Year 1 profit = 90% of $120,000 = 0.9 × $120,000 = $108,000In the following year, the profit increased by 15%:Year 2 profit = 115% of Year 1 profit = 1.15 × $108,000 = $124,200So, the final profit after two years is $124,200.Question 24: A laptop is sold for $800 after applying a 20% profit margin. The population of a town increases 3% each year. Use this Google Search to find what you need. Ron scored 344 marks out of 400 marks and his elder brother Ben scored 582 marks out of 600 marks. Solution: Let the original number be x Final number obtained = 110% of (90% of x) =(110/100 × 90/100 × x) = (99/100)x Given the number obtained is 10 less than the original number. What is the percentage of the total votes the winning student gets? Solution: Let the number of apples a fruit seller had be x. If its present value is Rs. 8748, then what was the price of the washing machine three years ago? If A is R% more than B, then B is less than A by R100+R×100% If A is R% less than B , then B is more than A by R100-R×100% Solution: Original Price of Shirt = $30 New Price of Shirt = $15 Decreased Price = $30 – $15 = $15 Percentage Decrease = (Decreased Value/Original Price) *100 = ($15/$30)*100 = 50% Therefore, the shirt was decreased by 50% of its price. It means by the hundred. It is 30,000 now. X is mistakenly multiplied by ⅗ = 3X/5 X should be multiplied by 5/3 = 5X/3 Thus, the error will be = (5X/3 – 3x/5) = 16X/15 Percentage Error = (error/True value) x 100 = [(16/15) x X/(5/3) x X] x 100 = 64 % Q.3: If 20% of x = y, what is the value of y% of 20 in terms of x? Who scored a better percentage?