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The average (arithmetic mean) of 5, 10, 15, and 20 is:Explanation: Add the numbers: 5+10+15+20=50. Divide by the number of values (4): 50÷4=12.5Answer: 12.5Ques 3. If a car travels 150 miles in 2.5 hours, what is the average speed in miles per hour?Explanation: Divide the total distance by the total time: 150÷2.5=60Answer: 60 miles per hourQues 4. Solve for y: 2y−7=3y+4.Explanation: Subtract 2y from both sides to get −7=y+4. Then subtract 4 from both sides to get y=−11.Answer: y=−11.Ques 6. If f(x) = x^2 - 3x + 2, find f(2).Explanation: Substitute 2 for (x): f(2) = 2^2 - 3(2) + 2 = 4 - 6 + 2 = 0.Answer: 0Ques 7. Expand the expression (x + 3)(x - 2).Explanation: Use the distributive property: x^2 - 2x + 3x - 6 = x^2 + x - 6.Answer: (x^2 + x - 6)Ques 8. If (x^2 = 16), what are the possible values of (x)? Explanation: Take the square root of both sides: (x = \pm 4).Answer: (x = 4) or (x = -4)Ques 9. What is the area of a triangle with a base of 8 cm and a height of 5 cm?Explanation: Use the formula for the area of a triangle: (\frac{1}{2} \times \text{base} \times \text{height} = \frac{1}{2} \times 8 \times 5 = 20Answer: 20 cm²Ques 10. What is the circumference of a circle with a radius of 7 cm? Explanation: Use the formula for the circumference: (2\pi r = 2 \times 3.14 \times 7 = 43.96)Answer:43.96 cmQues 11. Find the length of the hypotenuse of a right triangle with legs of length 6 cm and 8 cm.Explanation: Use the Pythagorean theorem: (\sqrt{6^2 + 8^2} = \sqrt{36 + 64} = \sqrt{100} = 10). Answer: 10 cmQues 12. What is the volume of a cylinder with a radius of 3 cm and a height of 5 cm? (Use (\pi \approx 3.14)Explanation: Use the formula for the volume of a cylinder: (\pi r^2 h = 3.14 \times 3^2 \times 5 = 3.14 \times 9 \times 5 = 141.3. Answer: 141.3 cm³Ques 13. The mean of five numbers is 8. If four of the numbers are 7, 9, 12, and 5, what is the fifth number?Explanation: Let the fifth number be (x). Then \frac{7 + 9 + 12 + 5 + x}{5} = 8 . Simplify to get (\frac{33 + x}{5} = 8). Multiply both sides by 5 to get (33 + x = 40). Subtract 33 to get (x = 7).Answer: 7Ques 14. A survey of 200 people found that 120 like coffee, 150 like tea, and 80 like both. How many people do not like either coffee or tea?Explanation: Use the principle of inclusion and exclusion: (120 + 150 - 80 = 190). Thus, (200 - 190 = 10).Answer: 10Ques 15. A dataset contains the numbers 5, 7, 9, 11, and 13. What is the median?Explanation: The median is the middle number in a sorted list. The sorted list is already given: 5, 7, 9, 11, 13. The middle number is 9.Answer: 9Ques 16. A jar contains 4 red, 5 blue, and 6 green marbles. If one marble is picked at random, what is the probability it is blue?Explanation: The total number of marbles is (4 + 5 + 6 = 15). The probability of picking a blue marble is (\frac{5}{15} = \frac{1}{3}).Answer: (\frac{1}{3})Ques 17. Simplify the expression: (3(x - 2) + 4).Explanation: Distribute the 3: \(3x - 6 + 4 = 3x - 2 \).Answer: (3x - 2)Ques 18. If (x) is directly proportional to (y) and (x = 10) when (y = 2), what is (x) when (y = 8)?Explanation: If \(x \) is directly proportional to (y), (x = ky). Using (x = 10) and (y = 2), (k = 5). Therefore, when (y = 8), (x = 5 \times 8 = 40).Answer: 40Ques 19. If (2x + 3 = 9), what is the value of (x)?Explanation: Subtract 3 from both sides to get (2x = 6). Then divide both sides by 2 to get (x = 3).Answer: (x = 3)Ques 20. A right triangle has one leg of 5 cm and a hypotenuse of 13 cm. What is the length of the other leg?Explanation: Use the Pythagorean theorem: Let the other leg be (x). Then (5^2 + x^2 = 13^2). Simplify to get (25 + x^2 = 169). Subtract 25 to get (x^2 = 144). Take the square root to get (x = 12).Answer: 12 cmAlso Read: Free GRE Quantitative Reasoning Practice Test 2024 is vital for your preparation across verbal, quantitative, and analytical writing sections. Regularly completing online Free GRE Quantitative Reasoning Practice Tests enhances your understanding of various question types and improves performance evaluation. The official ETS website offers a range of GRE practice materials, and online courses can further aid in efficient exam preparation. GeeksforGeeks provides Free GRE Quantitative Reasoning Practice Tests and other GRE Quantitative Reasoning Practice Tests, expertly crafted to help you excel. Whether you're starting or fine-tuning skills, our GRE Free Writing Practice Tests are essential for acing the exam.Free GRE Quantitative Reasoning Practice Test: GRE Reasoning Test-8Arithmetic QuestionsHere are the solutions for each question with detailed explanations:Question 1: What is the least common multiple (LCM) of 12 and 15? Answer: 60 Solution: Prime factorization of 12: (12 = 2^2 \times 3) Prime factorization of 15: (15 = 3 \times 5) LCM is found by taking the highest power of each prime factor: (LCM = 2^2 \times 3 \times 5 = 60)Question 2: If 5 workers can complete a task in 12 days, how many days will it take 15 workers to complete the same task? Answer: 4 days Solution: Work is inversely proportional to the number of workers. If 5 workers take 12 days, the total work is (5 \times 12 = 60) worker-days. For 15 workers, days needed = (\frac{60}{15} = 4) days.Question 3: If a car travels at 60 miles per hour, how many miles will it travel in 45 minutes? Answer: 45 miles Solution: Convert 45 minutes to hours: (\frac{45}{60} = 0.75) hours. Distance = \text{Speed} \times \text{Time} = 60 \times 0.75 = 45 \text{ miles.} = (60 \times 0.75 = 45) miles.Question 4: A box contains 4 red balls, 5 blue balls, and 6 green balls. What is the probability of randomly selecting a red ball? Answer: (\frac{4}{15}) Solution: Total balls = (4 + 5 + 6 = 15). Probability of red = (\frac{\text{Number of red balls}}{\text{Total balls}} = \frac{4}{15}).Question 5: A certain number is multiplied by 3, and then 5 is subtracted from the result. If the final answer is 10, what was the original number? Answer: 5 Solution: Let the number be (x). Equation: (3x - 5 = 10). Solve: (3x = 15 \Rightarrow x = 5).Question 6: Solve for (x): (2x + 5 = 17). Answer: (x = 6) Solution: Subtract 5 from both sides: (2x = 12). Divide by 2: (x = 6).Question 7: If (x^2 - 4x - 12 = 0), what are the possible values of (x)? Answer: (x = 6) or (x = -2) Solution: Factor the equation: ((x - 6)(x + 2) = 0). Solutions: (x = 6) or (x = -2).Question 8: Solve for (y): (3y + 2 = 5y - 6). Answer: (y = 4) Solution: Rearrange: (5y - 3y = 2 + 6). Simplify: (2y = 8 \Rightarrow y = 4).Question 9: If (2x + y = 10) and (x - y = 2), what is the value of (x)? Answer: (x = 4) Solution: From the second equation: (x = y + 2). Substitute into the first equation: (2(y + 2) + y = 10). Simplify: (2y + 4 + y = 10 \Rightarrow 3y = 6 \Rightarrow y = 2). Substitute (y = 2) into (x = y + 2): (x = 4).Question 10: Simplify the expression ((x^2 - 4)(x + 2)). Answer: ((x - 2)) for (x eq -2) Solution: Factor (x^2 - 4) as ((x - 2)(x + 2)). Expression becomes ((x - 2)(x + 2)(x + 2)). Simplified as ((x - 2)). Geometry QuestionsQuestion 11: What is the area of a triangle with a base of 10 units and a height of 5 units? Answer: 25 square units Solution: Area = (\frac{1}{2} \times \text{Base} \times \text{Height} = \frac{1}{2} \times 10 \times 5 = 25) square units.Question 12: A circle has a radius of 7 units. What is its circumference? Answer: (14\pi) units Solution: Circumference = (2\pi \times \text{Radius} = 2\pi \times 7 = 14\pi) units.Question 13: What is the volume of a rectangular box with dimensions 3 units by 4 units by 5 units? Answer: 60 cubic units Solution: Volume = (\text{Length} \times \text{Width} \times \text{Height} = 3 \times 4 \times 5 = 60) cubic units.Question 14: In a right triangle, one leg is 8 units long and the hypotenuse is 10 units. What is the length of the other leg? Answer: 6 units Solution: Use Pythagorean theorem: (c^2 = a^2 + b^2). (100 = 64 + b^2 \Rightarrow b^2 = 36 \Rightarrow b = 6).Question 15: What is the measure of each interior angle of a regular pentagon? Answer: 108 degrees Solution: Each interior angle = (\frac{(n - 2) \times 180^\circ}{n} = \frac{(5 - 2) \times 180}{5} = 108^\circ). Data Analysis QuestionsQuestion 16: A data set has 10 numbers. The average of these numbers is 15. If one of the numbers is removed, the new average is 14. What was the number that was removed? Answer: 24 Solution: Total of 10 numbers = (10 \times 15 = 150). New total of 9 numbers = (9 \times 14 = 126). Removed number = (150 - 126 = 24).Question 17: If the median of a set of numbers is 20, and the mode is 22, what is the most likely range for the set of numbers? Answer: The range is unknown because additional data is required. Solution: Range requires the maximum and minimum values, which are not provided.Question 18: A researcher surveys 50 people about their favorite fruit. 30 choose apples, 15 choose bananas, and 5 choose oranges. What percentage of people chose bananas? Answer: 30% Solution: Percentage = (\frac{\text{Number of people who chose bananas}}{\text{Total people}} \times 100 = \frac{15}{50} \times 100 = 30\%).Question 19: A box plot shows a data set with a minimum value of 2, a maximum value of 18, and a median of 10. What is the interquartile range if the first quartile is 5 and the third quartile is 15? Answer: 10 Solution: Interquartile Range (IQR) = (Q3 - Q1 = 15 - 5 = 10).Question 20: A line graph shows a company's revenue increasing from $100,000 to $150,000 in one year. What is the percentage increase in revenue? Answer: 50% Solution: Percentage increase = (\frac{\text{New Value} - \text{Original Value}}{\text{Original Value}} \times 100 = \frac{150,000 - 100,000}{100,000} \times 100 = 50\%).Also Read: Standardized tests are similar in many ways and there are certain strategies that can be applied to almost all of them, GRE included. If you are looking for the most efficient and effective methods of preparing for an exam of this magnitude, then take a look at these tips and see if you can apply them to your own GRE preparation process. Page 2 Standardized tests are similar in many ways and there are certain strategies that can be applied to almost all of them, GRE included. If you are looking for the most efficient and effective methods of preparing for an exam of this magnitude, then take a look at these tips and see if you can apply them to your own GRE preparation process. ← Previous 1 2 3 4 5 6 7 8 9 … 158 159 Next → What is the value of t if: 3x2 + tx - 21 = (3x - 3)(x + 7)? Possible Answers: Correct answer: 18 Explanation: Use the foil method: (3x - 3) (x + 7) = 3x2 +21x - 3x - 21 = 3x2 +18x -21 so t = 18. Expand the following equation: Possible Answers: Correct answer: Explanation: use FOIL to factor the expression. First: (x3)(x) = x4 Outside (x3)(7) = 7x3 Inside (–3)(x) = –3x (Don't forget the negatives!) Last (3)(7) = –21 Quantity A: Quantity B: Possible Answers: The relationship cannot be determined from the information given. The two quantities are equal. Correct answer: Quantity B is greater. Explanation: Quantity A: 22 + 32 = 4 + 9 = 13 Quantity B: (2 + 3)2 = 52 = 25, so Quantity B is greater. We can also think of this in more general terms. x2 + y2 does not generally equal (x + y)2. Quantity A: Quantity B: Possible Answers: The two quantities are equal. The relationship cannot be determined from the information given. Correct answer: Quantity B is greater. Explanation: The difference of squares formula says (x + a)(x - a) = x2 - a2. Thus, Quantity A equals 8. Therefore, Quantity B is greater. Quantity A: Quantity B: Possible Answers: The relationship cannot be determined. The two quantities are equal. Correct answer: Quantity B is greater. Explanation: To approach this problem, consider the two quantities Quantity A: Quantity B: They are in different forms, so expand quantity A: Quantity A: Quantity B: Now, for the purpose of comparison, subtract shared terms from each quantity: Quantity A*: Quantity B*: Both and are negative, non-zero values. Since is a product of two negative values, it must be positive. Quantity B must be greater than Quantity A. Expand the function: Possible Answers: Correct answer: Explanation: Use the method of FOIL (First, Outside, Inside, Last) and add exponents for like bases: Quantity A: Quantity B: Possible Answers: The relationship cannot be determined. The two quantities are equal. Correct answer: The relationship cannot be determined. Explanation: Begin by expanding Quantity A: Now in order to compare this to Quantity B: A good method would be to subtract shared terms from each Quantity; in this case, both quantities have an and term. Removing them gives: Quantity A' : Quantity B' : The question now is the sign of Quantity A'; if it's always positive, Quantity A is greater. If it's always negative, Quantity B is greater. If it is zero, the two are the same. We only know that If , then Quantity A' would be zero. If , then Quantity A' would be positive. Since values of x and y can be chosen to vary the relationship, th relationship cannot be determined. Quantity A: Quantity B: Possible Answers: The two quantities are equal. The relationship cannot be determined. Correct answer: Quantity B is greater. Explanation: Begin by expanding Quantity A: Now in order to compare this to Quantity B: A good method would be to subtract shared terms from each Quantity; in this case, both quantities have an and term. Removing them gives: Quantity A' : Quantity B' : The question now is the sign of Quantity A'; if it's always positive, Quantity A is greater. If it's always negative, Quantity B is greater. If it is zero, the two are the same. We know that Now compare and : Looking at absolute values so that we're only considering positive terms: From this it follows that by multiplying across the inequality : From this we can determine that the magnitude of is greater. However, since this is the product of one negative number and two positive numbers, is negative, and the sum of and must in turn be negative, and so Quantity A' must be negative! From this we can say that Quantity B is greater. Quantity A: Quantity B: Possible Answers: The two quantities are equal. The relationship cannot be determined. Correct answer: The relationship cannot be determined. Explanation: This problem is deceptive. Looking at Quantity A, one may think to factor and reduce it as follows: Which is identical to Quantity B. However, we cannot ignore that in the original fraction! We are given no conditions as to the value of . If , then Quantity A would be undefined. Since we're not given the condition , we cannot ignore this possibility. The relationship cannot be established. Solve the following expression, . Possible Answers: Correct answer: Explanation: You must FOIL the expression which means to multiply the first terms together followed by the outer terms, then the inner terms and lastly, the last terms. The expression written out looks like .   You multiple both First terms to get .   Then the outer terms are multiplied . Then you multiple the inner terms together . Finally you multiply the last terms of each .   This gives you or . ← Previous 1 2 3 4 5 6 7 8 9 … 158 159 Next → 1-on-1 Tutoring Live Online Class 1-on-1 + Class If you've found an issue with this question, please let us know. With the help of the community we can continue to improve our educational resources. If you believe that content available by means of the Website (as defined in our Terms of Service) infringes one or more of your copyrights, please notify us by providing a written notice ("Infringement Notice") containing the information described below to the designated agent listed below. If Varsity Tutors takes action in response to an Infringement Notice, it will make a good faith attempt to contact the party that made such content available by means of the most recent email address, if any, provided by such party to Varsity Tutors. Your Infringement Notice may be forwarded to the party that made the content available or to third parties such as ChillingEffects.org. Please be advised that you will be liable for damages (including costs and attorneys' fees) if you materially misrepresent that a product or activity is infringing your copyrights. Thus, if you are not sure content located on or linked-to by the Website infringes your copyright, you should consider first contacting an attorney. 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Send your complaint to our designated agent at: Charles Cohn Varsity Tutors LLC 101 S. Hanley Rd, Suite 300 St. Louis, MO 63105 Or fill out the form below: The GRE is a standardized test for all types of graduate schools, including business and law schools. It is created and administered by Educational Testing Service (ETS). The Quantitative Reasoning test on the GRE assesses your knowledge of basic arithmetic, algebra, geometry, and data analysis. To help you prepare for this section of the GRE, this page contains everything you need to know, including what topics are covered, how many questions there are, and how you can study effectively.Click "Start Test" above to take a free GRE Quantitative Reasoning practice test!What's on the GRE Quantitative Reasoning Test?SectionQuestionsTime LimitSection 11221 minutesSection 21526 minutes There are three types of quantitative reasoning questions.Quantitative Comparison: You must compare two given quantities and determine which quantity is greater (or if they are equal).Multiple-Choice: You must choose one or more correct answers from a list of five answer choices.Numeric Entry: You must enter your answer into a single box as a decimal or as an integer, or you must enter your answer as a fraction into two separate boxes.Click below to see all of the formulas you should know:GRE FormulasArithmetic and Number PropertiesTypes of NumbersOrder of Operations: PEMDASCommutative, Associative, and Distributive PropertiesPrime NumbersFactorizationDivisibilityAbsolute ValuesFast FractionsPercentagesRatiosPowers and RootsExponentsRootsAlgebraSimplifying ExpressionsFactoringSolving EquationsGeometryAnglesPolygonsTrianglesCirclesSquaresRectanglesTrapezoidsQuadrilaterals3-D ShapesCoordinate GeometryLinesThe Distance FormulaQuadraticsWord ProblemsDistance, Rate, and TimeWork RateSequencesInterestStatisticsCountingProbability GRE Math PracticeFree GRE Math Practice QuestionsGRE Online Prep CourseIf you want to be fully prepared, Mometrix offers an online GRE prep course designed to give you everything you need to succeed!Here's what you'll find in the GRE course:70+ Review Lessons Covering Every TopicOver 600 GRE Practice Questions240+ Video Tutorials300+ Digital FlashcardsMoney-back GuaranteeMobile AccessEveryone learns differently, so we've tailored the GRE online prep course to ensure every learner has what they need to prepare for the GRE exam.Click below to check it out! Start Your GRE Online CourseFAQsThere are 20 questions on each section of the GRE Quantitative Reasoning test, which means there is a total of 40 questions.The Quantitative Reasoning test is timed at 35 minutes per section, giving you a total of 1 hour and 10 minutes to complete the test.There is no set passing score for the Quantitative Reasoning test.Affiliate disclosure: As an Amazon Associate, we may earn commissions from qualifying purchases from Amazon.com. GRE Mock Test 200: Practice free online GRE Quantitative Reasoning exam questions and answers and detailed solutions. GRE Test The Graduate Record Examination (GRE) is a standard test for graduates wishing to apply for graduate schools in the United States. The test is designed to measure general academic abilities regardless of the candidate's area of expertise. Here, the focus is primarily on the verbal and quantitative abilities of abstract thinking, which ideally should have developed in undergraduate studies. In the general GRE test, there are three sections: Verbal Reasoning, Quantitative Reasoning and Analytical Writing, each of which is designed to test different skills. Verbal Reasoning: Here, the candidate should prove his verbal skills. Accordingly, the questions typically consist of exercises on analogies and antonyms as well as reading comprehension questions. Primarily, the candidate's vocabulary is tested here. Quantitative Reasoning: In the quantitative part, Math and comparison questions at the high school level have to be solved, including appropriate knowledge in algebra and geometry. Analytical Writing: Test takers must write two short essays. In addition to these three graded parts, there may also be a "research" part, which is for research purposes only of the test organizer ETS and therefore not graded. GRE Quantitative Reasoning Preparation Tips The quantitative section of GRE corresponds in complexity to the high school curriculum and is based primarily on data interpretation. It includes 40 questions, allowing to evaluate the candidate's ability to analyze numerical data and use various Mathematical models. In order to successfully complete all the questions in this section, one must learn not only to solve various problems of arithmetic, geometry or algebra but also to analyze numerical information. If you have received technical education, this section should not present much difficulties for you. However, if you are not a "techie", you will have to get textbooks and remember the school program of algebra, geometry, advanced Mathematics, the theory of probability, factorials, logarithms, f(x), fractional degrees, relations, how to draw a graph using an equation, and even arithmetic. You need to know all this very well if you are counting on a result above 150 points. The questions in this section require solving MCQs (multiple choice questions). Some questions will need to compare certain values. When preparing for the quantitative section, focus on the features of the questions in the GRE exam. The questions of the Mathematical part are not very difficult. But, if you are preparing for GRE, it is advised to refresh the following in your memory - all sorts of formulas for various figures: area, volume, calculation of the diagonal through the sides, calculation of the sides through the diagonal, surface area, height of the cone, radius of the ball, etc. The problems of statistics and probability theory are of particular difficulty, therefore it is important to pay special attention to them in preparation. In addition, the preparation for the GRE should provide skills for solving various questions. And this can be achieved through the regular practice of mock tests. Recommended GRE Mock Test. GRE Verbal Reasoning Mock Test. You don't need to learn particularly complex formulas and concepts that go beyond the school course. Moreover, since in many questions prompts are already laid, you only need to choose the correct answer, and not solve the problem from scratch. There is no need to consider it in your mind either: there is a built-in calculator in a computer test, and if you write a test on paper, you should be given a calculator. During the exam in this section, you can use the calculator. The main advice - do not neglect the official site of the exam where you get interesting articles, video courses (available by subscription). In order to prepare more effectively for the GRE test, special preparation is needed for each of its sections. To do this, you need to know exactly what questions take much time, what "pitfalls" threaten you, and how to maximize your points. And most importantly - learn the terminology. This applies to everyone who gives GRE. It will be a shame to fail miserably in the Mathematical part just because you didn't know what "prime number" means, do you? Study for free with Manhattan GRE Practice Questions! Manhattan Review has been helping students prepare for entrance exams like the GRE since 1999. With more than twenty years of experience, Manhattan Review's instructors have put together study materials to help students improve their test scores and gain admission to some of the most exclusive colleges and universities in the world. For those looking for more, Manhattan Review has tutors in most cities as well as many online options, both private one-on-one lessons and group courses. Those interested can contact us via email or phone to get started. So, what are you waiting for? Get started today using this free GRE Questionsbank from Manhattan Review, and start sharpening your GRE skills! The GRE's Quantitative Reasoning section aims to evaluate a student's mathematical abilities and their capacity for quantitative reasoning. In order to perform exceptionally well in this section, it is crucial to practise as much as you can by utilizing a variety of GRE practice tests.Below, you will get the official GRE Quantitative Reasoning Practice Questions with detailed explanations. Also, get practice test papers pdf below. Download the pdf for offline use.Official GRE Quantitative Reasoning Practise QuestionsDownloadThese tests encompass a wide range of questions that encompass all the topics one can expect to encounter on the actual exam, such as arithmetic, algebra, geometry, and data analysis.By practicing with these tests, individuals can become familiar with the test format, question types, and develop effective time management skills. Additionally, it is advantageous to thoroughly review detailed explanations for each question in order to grasp the underlying concepts and strategies for solving them efficiently.Below, we have provided a list of Practice Questions for Quantitative Reasoning in pdf format. Always, remember a person who never stop trying leads to success and it is possible only through practice. So, practise as much as you can for your success in the upcoming GRE exam.Question: A rectangular garden measuring 30 meters by 40 meters is to be surrounded by a walkway of uniform width. If the area of the walkway is to be one-fourth the area of the garden, what must be the width of the walkway?Answer: Let the width of the walkway be (w) meters. The area of the garden is (30 \times 40 = 1200) square meters. The area of the walkway is (\frac{1}{4} \times 1200 = 300) square meters. The dimensions of the garden plus walkway are ((30 + 2w)) by ((40 + 2w)). The area of the garden plus walkway is ((30 + 2w)(40 + 2w)). The area of just the walkway is the total area minus the area of the garden, which gives us the equation ((30 + 2w)(40 + 2w) – 1200 = 300). Solving for (w), we find that (w = 5) meters.Question: A company sells two products, P and Q. The profit from selling one unit of P is $20 and from Q is $30. Last month, the company sold a total of 200 units and made a profit of $4500. How many units of each product were sold?Answer: Let (x) be the number of units of P sold and (y) be the number of units of Q sold. We have two equations: (x + y = 200) (total units sold) and (20x + 30y = 4500) (total profit). Solving this system of equations, we get (x = 150) and (y = 50).Question: If the probability that an event will occur is (\frac{2}{3}), what is the probability that the event will not occur twice in two independent trials?Answer: The probability that the event will not occur in one trial is (1 – \frac{2}{3} = \frac{1}{3}). Since the trials are independent, the probability that the event will not occur in both trials is (\left(\frac{1}{3}\right)^2 = \frac{1}{9}).Question: A train travels from Station A to Station B at a speed of 60 km/h and returns at a speed of 90 km/h. What is the average speed for the round trip?Answer: The average speed for a round trip is given by the formula Average Speed=Speed1+Speed22×Speed1×Speed2 . Plugging in the values, we get Average Speed=60+902×60×90 =15010800=72 km/h .Question: If the price of an item is increased by 25% and then decreased by 20%, what is the net percentage change in the price?Answer: Let the original price be $100. After a 25% increase, the new price is $125. A 20% decrease on $125 is $25, so the final price is $125 – $25 = $100. The net percentage change is 0%.Question: A rectangle's length is twice its width. If the perimeter of the rectangle is 60 cm, what are its dimensions?Answer: Let the width be (w) cm. Then the length is (2w) cm. The perimeter is (2(w + 2w) = 60). Solving for (w), we get (w = 10) cm and the length is (20) cm.Question: A company has two types of machines, type A and type B. Type A machines can produce 100 units per hour, while type B machines produce 80 units per hour. If the company operates 5 type A machines and 3 type B machines, how many units are produced in 4 hours?Answer: In 4 hours, type A machines produce (5 \times 100 \times 4 = 2000) units, and type B machines produce (3 \times 80 \times 4 = 960) units. The total production is (2000 + 960 = 2960) units.Question: A school has 1200 students. If 40% are boys, how many girls are there in the school?Answer: If 40% are boys, then 60% are girls. The number of girls is (0.60 \times 1200 = 720).Question: A ladder leans against a wall forming a 60-degree angle with the ground. If the top of the ladder is 15 feet from the ground, how long is the ladder?Answer: Using the sine function, (\sin(60^\circ) = \frac{\text{opposite}}{\text{hypotenuse}}). The length of the ladder (hypotenuse) is (\frac{15}{\sin(60^\circ)} \approx 17.32) feet.Question: A car travels the first third of a certain distance with a speed of 30 km/h, the next third with a speed of 50 km/h, and the last third with a speed of 20 km/h. What is the average speed for the entire trip?Answer: Let the total distance be (3d). The time for each third is (\frac{d}{30}), (\frac{d}{50}), and (\frac{d}{20}) hours, respectively. The total time is (\frac{d}{30} + \frac{d}{50} + \frac{d}{20}) hours. The average speed is (\frac{3d}{\frac{d}{30} + \frac{d}{50} + \frac{d}{20}} \approx 28.57) km/h.Question: In a class of 50 students, 18 play football, 17 play basketball, and 15 play both. How many students do not play either sport?Answer: Using the principle of inclusion-exclusion, the number of students playing at least one sport is (18 + 17 – 15 = 20). Therefore, (50 – 20 = 30) students do not play either sport.Question: A fruit seller buys oranges at $4 per dozen and sells them at $1 for 3 oranges. How many oranges must he sell to make a profit of $20?Answer: The cost price per orange is (\frac{4}{12} = \frac{1}{3}) dollars. The selling price per orange is $1 for 3, or (\frac{1}{3}) dollars. The profit per orange is (\frac{1}{3} – \frac{1}{3} = 0), so he cannot make a profit by selling oranges at this price.Question: A tank is filled by Pipe A in 2 hours and by Pipe B in 3 hours. When both pipes are opened, how long will it take to fill the tank?Answer: Pipe A's rate is (\frac{1}{2}) tank/hour, and Pipe B's rate is (\frac{1}{3}) tank/hour. Together, they fill (\frac{1}{2} + \frac{1}{3} = \frac{5}{6}) tank/hour. The tank will be filled in (\frac{1}{\frac{5}{6}} = 1.2) hours, or 1 hour and 12 minutes.What is 7% of 350?If (x = 3) and (y = -2), what is (x^2 + y^2)?What is the median of the set {3, 7, 9, 5, 21}?Solve for (y): (2y – 4 = 10)If (5x + 3 = 2x + 15), what is (x)?What is the area of a triangle with base 8 cm and height 7 cm?If (4^x = 64), what is (x)?What is the slope of the line (y = 3x + 4)?If the sum of a number and its reciprocal is (\frac{10}{3}), what is the number?Answer: 3 or (\frac{1}{3})What is the probability of rolling a sum of 8 on two six-sided dice?If (3x – 2y = 12) and (x + y = 7), what is (y)?What is the volume of a cylinder with radius 3 cm and height 5 cm?If (\frac{x}{3} = 5), what is (x)?What is the sum of the angles in a pentagon?If (x) is directly proportional to (y), and (x = 10) when (y = 2), what is (x) when (y = 3)?What is the greatest common divisor of 36 and 54?If (5x – 2 = 3x + 6), what is (x)?What is the range of the set {2, 4, 6, 8, 10}?If (x) is inversely proportional to (y), and (x = 8) when (y = 2), what is (y) when (x = 4)?What is the standard deviation of the set {2, 4, 4, 4, 5, 5, 7, 9}?Answer: Approximately 2.138If (x + y = 10) and (x – y = 4), what are (x) and (y)?Answer: (x = 7), (y = 3)What is the interest earned on $200 invested at 5% annual interest for one year?If (2x + 3y = 12) and (x – y = 1), what is (x)?What is the exterior angle of a regular hexagon?If (x) is 30% of (y), what percent of (x) is (y)?What is the sum of the interior angles of a nonagon?If (3x + 4y = 12) and (x – 2y = 3), what is (y)?What is the factorial of 5 (5!)?If (x) is 20% more than (y), what percent of (y) is (x)?What is the sum of the first 5 prime numbers?Arithmetic:Q 1: If (x + 2y = 10) and (2x - y = 4), what is the value of (x)?Q 2: What is the sum of the first 10 positive integers?Question 3: If (a + b = 7) and (a – b = 3), what is the value of (a^2 – b^2)?Algebra:Q 4: Solve for (x): (3x + 2 = 8)Q 5: If (2x + 3y = 12) and (3x – 2y = 6), what is the value of (x + y)?Q 6: What is the value of (\frac{1}{x} + \frac{1}{y}) if (x = 3) and (y = 4)?Geometry:Q 7: What is the area of a rectangle with length (6) units and width (4) units?Answer: (24) square unitsQ 8: If the circumference of a circle is (18\pi), what is its radius?Q 9: What is the volume of a cube with side length (5) units?Answer: (125) cubic unitsData Interpretation:Q 10: Given the following data, what is the average of the numbers: (2, 4, 6, 8, 10)?Q 11: If the mean of a set of numbers is (20) and there are (5) numbers, what is their sum?Q 12: In a survey, (60%) of people prefer tea over coffee. If (300) people were surveyed, how many prefer tea?Quantitative Comparison:Q 13: Compare (x) and (y): (x = 5) and (y = 3)Q 14: Compare (\frac{1}{x}) and (\frac{1}{y}): (x = 2) and (y = 4)Answer: (\frac{1}{x} < \frac{1}{y})Q 15: Compare (2x) and (x^2): (x = 3)Enhancing your GRE Quantitative Reasoning score requires a methodical approach to studying and practicing. Here are some guidelines to help you improve your results:Master the Basics: Ensure you have a strong understanding of fundamental math concepts to better analyze and solve problems in the quantitative section.Identify Question Types: Familiarize yourself with the various question formats you will encounter, such as quantitative comparison, problem-solving, and data interpretation.Consistent Practice: Dedicate time to practicing a wide range of problems to recognize patterns and grasp the test's format.Address Weaknesses: Pinpoint your areas of weakness and concentrate on improving them until they become strengths.Time Management: Develop effective time management skills by practicing under timed conditions to enhance your speed and accuracy.Utilize Reliable Resources: Make use of reputable GRE preparation materials like books, online courses, and practice tests from trusted sources.Learn Test Strategies: Develop strategies to answer questions more efficiently, including elimination techniques and educated guessing when needed.Practice in Test-like Conditions: Take full-length practice tests under conditions that replicate the actual exam to build endurance and reduce test anxiety.Analyze Errors: Review your mistakes after practice sessions to understand why you erred and how to avoid similar mistakes in the future.Seek Feedback: If possible, seek feedback on your performance from a tutor or study group to gain valuable insights you may have overlooked.Begin by taking a practice test to identify your strengths and weaknesses.Refresh your knowledge of basic math concepts like algebra, geometry, and data analysis.Take a close look at the questions you answered incorrectly to understand your errors.Concentrate your study on the topics where you need the most improvement.Consistent practice is essential for mastering the Quantitative Reasoning section.Simulate real exam conditions by timing your practice sessions.Study with materials that offer detailed explanations for each answer.Develop techniques for efficient problem-solving and time management.Periodically take full-length tests to build endurance and boost your confidence.Continuously review your performance and repeat practice tests to track your progress.What topics are covered in the GRE Quantitative Reasoning section?The section includes arithmetic, algebra, geometry, and data analysis.How many questions are in the GRE Quantitative Reasoning section?There are 20 questions per section, with two sections of total 40 questions.What types of questions are on the GRE Quantitative Reasoning test?Questions include quantitative comparison, multiple-choice, and numeric entry.How long do I have to complete each Quantitative Reasoning section?Each section is timed at 35 minutes, giving you a total of 1 hour and 10 minutes.Is there a passing score for the GRE Quantitative Reasoning test?The GRE does not have a passing score; it's scored on a scale of 130-170.Can I use a calculator on the GRE Quantitative Reasoning section?Yes, a basic on-screen calculator is provided for use during the test.How should I prepare for the GRE Quantitative Reasoning test?Regular practice with sample questions, reviewing math concepts, and taking timed practice tests are effective preparation strategies. The Quantitative Reasoning measure of the GRE General Test assesses your: basic mathematical skills understanding of elementary mathematical concepts ability to reason quantitatively and to model and solve problems with quantitative methods. Some of the Quantitative Reasoning questions are posed in real-life settings, while others are posed in purely mathematical settings. Many of the questions are "word problems," which must be translated and modeled mathematically. The skills, concepts and abilities are assessed in the four content areas below. Arithmetic topics, including: properties and types of integers, such as divisibility, factorization, prime numbers, remainders and odd and even integers arithmetic operations, exponents and roots concepts such as estimation, percent, ratio, rate, absolute value, the number line, decimal representation and sequences of numbers Algebra topics, including: operations with exponents factoring and simplifying algebraic expressions relations, functions, equations and inequalities solving linear and quadratic equations and inequalities solving simultaneous equations and inequalities setting up equations to solve word problems coordinate geometry, including graphs of functions, equations and inequalities, intercepts and slopes of lines Geometry topics, including: parallel and perpendicular lines circles triangles, including isosceles, equilateral and 30°-60°-90° triangles quadrilaterals other polygons congruent and similar figures 3-dimensional figures area perimeter volume the Pythagorean theorem angle measurement in degrees The ability to construct proofs is not tested. Data analysis topics, including: basic descriptive statistics, such as mean, median, mode, range, standard deviation, interquartile range, quartiles and percentiles interpretation of data in tables and graphs, such as line graphs, bar graphs, circle graphs, boxplots, scatterplots and frequency distributions elementary probability, such as probabilities of compound events and independent events conditional probability random variables and probability distributions, including normal distributions counting methods, such as combinations, permutations and Venn diagrams These topics are typically taught in high school algebra courses or introductory statistics courses. Inferential statistics is not tested. The content in these areas includes high school mathematics and statistics at a level that is generally no higher than a second course in algebra. It doesn't include trigonometry, calculus or other higher-level mathematics. The Math Review (PDF) provides detailed information about the content of the Quantitative Reasoning measure. Symbols, terminology, conventions and assumptions The mathematical symbols, terminology and conventions used in the Quantitative Reasoning measure are standard at the high school level. For example, the positive direction of a number line is to the right, distances are nonnegative and prime numbers are greater than 1. Whenever nonstandard notation is used in a question, it is explicitly introduced in the question. In addition to conventions, there are some important assumptions about numbers and figures that are listed in the Quantitative Reasoning section directions: All numbers used are real numbers. All figures are assumed to lie in a plane unless otherwise indicated. Geometric figures, such as lines, circles, triangles, and quadrilaterals, are not necessarily drawn to scale. Don't assume quantities such as lengths and angle measures are as they appear in a figure. You should assume, however, that: lines shown as straight are actually straight points on a line are in the order shown all geometric objects are in the relative positions shown For questions with geometric figures, you should base your answers on geometric reasoning, not on estimating or comparing quantities by sight or by measurement. The following are drawn to scale. You can read, estimate or compare quantities and data values by sight or by measurement: coordinate systems, such as xy-planes and number lines graphical data presentations such as bar graphs, circle graphs and line graphs To learn more about conventions and assumptions, download Mathematical Conventions (PDF). Question types and Data Interpretation sets The Quantitative Reasoning measure has four types of questions: Quantitative Comparison Questions Multiple-choice Questions — Select One Answer Choice Multiple-choice Questions — Select One or More Answer Choices Numeric Entry Questions Each question appears either independently as a discrete question or as part of a set of questions called a Data Interpretation set. All questions in a Data Interpretation set are based on the same data presented in tables, graphs or other displays of data. In addition to the tips for answering in the question type sections above, there are also some general problem-solving steps and strategies you can employ. Questions in the Quantitative Reasoning measure ask you to model and solve problems using quantitative, or mathematical, methods. Generally, there are three basic steps in solving a mathematics problem: There are no set rules — applicable to all mathematics problems — to determine the best strategy. The ability to determine a strategy that will work grows as you solve more and more problems. Download the Sample Questions for a list of 14 useful strategies you can employ, along with one or two sample questions that illustrate how to use each strategy. You're provided with a basic on-screen calculator on the Quantitative Reasoning measure. Sometimes the computations you need to do to answer a question in the Quantitative Reasoning measure are somewhat time-consuming, like long division, or they involve square roots. Although the calculator can shorten the time it takes to perform computations, keep in mind that the calculator provides results that supplement, but don't replace, your knowledge of mathematics. You'll need to use your mathematical knowledge to determine whether the calculator's results are reasonable and how the results can be used to answer a question. Here are some general guidelines for calculator use in the Quantitative Reasoning measure: Most of the questions don't require difficult computations, so don't use the calculator just because it's available. Use it for calculations that you know are tedious, such as long division, square roots, and addition, subtraction, or multiplication of numbers that have several digits. Avoid using it for simple computations that are quicker to do mentally, such as   and Avoid using it to introduce decimals if you're asked to give an answer as a fraction. You may be able to answer some questions more quickly by reasoning and estimating than by using the calculator. If you use the calculator, estimate the answer beforehand so you can determine whether the calculator's answer is "in the ballpark." This may help you avoid key-entry errors. For more information, download Guidelines Specific to the On-Screen Calculator (PDF).