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Algebra 1 test questions and answers

2. 5x + 2(x + 7) = 14x – 7. Find x a. 1 b. 2 c. 3 d. 4. 12t – 10 = 14t + 2. Find t a. -6 b. -4 c. 4 d. 6 4. 5(z + 1) = 3(z + 2) + 11 Solve for Z a. 2 b. 4 c. 6 d. 12 5. The price of a book rose from $20 to $25. How many per cent has the price increased? a. 5 b. 10 c. 20 d. 25 6. The price of a book decreased from $25 to $20. How much per cent has the price decreased? a. 5 b. 10 c. 20 d. 25 7. After performing several tests, Brian improved his GRE test results by 30.% As the first time he took the Brian test correctly answered 150 questions, how many correct answers did he respond in the second test? a. 105 b. 120 c. 180 d. 195 8. A number has increased by 2 and then multiplied by 3. The result is 24. What's this number? a. 4 b. 6 c. 8 d. 10 9. The age of my father divided for 5 years is equal to the age of my brother divided by 3. My brother is more than me than three. My father's age is less than 3 times at my age. How old is my father? a. 34 b. 45 c. 56 d. 61 10. (x – 2) / 4 – (3x + 5) / 7 = – 3, x = ? a. 6 b. 7 c. 10 d. 13 11. 1 / (1 + 1 / 1 / 1 / x) = 4, x = ? a. – 3/4 b. 3/7 c. 4/7 d. 3/4 5. D The price is increased from $20 to $25(5) so the question is 5 is that percentage of 20. O, 5/20 = x/100; 500/20 = 25% 6. C 7. D The first time, Brian answered 150 questions correctly and the second time answered 30% more correctly, then, 150 + (30/100 * 150) ; 30% of 150 = 45, or (30 * 150)/100 so 150 + 45 = 195 8. B We call this number by x: This number is increased by 2; x + 2 Then, it is multiplied by 3: 3(x + 2) The result is 24: 3(x + 2) = 24 ... Solving this linear equation, we get the number value: x + 2 = 24 / 3 x + 2 = 8 x = 8 – 2 x = 6 9. B My age: x My brother is 3 years older than me: x + 3 My father is 3 less than 2 times my age: 2x – 3 The age of my father divided by 5 is equal to the age of my brother divided by 3: (2x – 3) / 5 = (x + 3) / 3 By multiplication5(x + 3) = 3(2x – 3) 5x + 15 = 6x – –x = 24 Age of my father: 2.24 – 3= 48 – 3 = 45 10. C There are two fractions containing x and the denominators are different. First, we find a common denominator to simplify expression. The less common multiplier of 4 and 7 is 28. Then, 7(x – 2) / 28 – 4(3x + 5) / 28 = – 3.28 / 28 ... Since both parts are written on the 28-hour caller, we can delete them: 7(x – 2) – 4(3x + 5) = – 84 7x – 14 – 12x – 20 = – 84 – 5x = – 84 + 14 + 20 – 5x = – 50 x = 50/5 x = 10 11. B We can follow the external method to solve this type of problem. x is in the inner part of this fraction; then, we need to narrow the circle to reach x: 1 / (1 + 1 / 1 / 1 / 1) = 4 This means that (1 + 1 / 1 / 1 / x) is equal to 1/4. Then, 1 + 1 / (1 – 1 / x) = 1/4 1 / (1 – 1 / 1 / x) = 1/4 – 1 / (1 – 1 / 1 / x) = – 3/4 This means that 1 – 1 /x = – 4/3. Then, 1 – 1/x = – 4/3 1x = 1/x = – 4/3 1/x = 7/3 So, x = 3/7. Written by Brian Stocker MA., Complete Test Preparation Inc. Date Published: Thursday, October 11th, 2012 Date Modified: 21 July, 2021 5/p p – 5 p + 5 p + 52 hours and 24 minutes3 hours and 12 minutes 3 hours and 44 minutes4 hours and 10 minutes4 hours and 33 minutes $280.90$287.00$292.50$303.89$14,310,40$14,90$15,290$70$15,737$16$16 A The following proportion can be written: 1/p=x/5. Solve for the variable, x, gives xp = 5, where x=5/p. So, Lynn can type 5/p pages, in 5 minutes.2. ASally can paint 1/4 of the house in 1 hour. John can paint 1/6 of the same house in 1 hour. In order to determine how long it will lead them to paint the house, when working together, the following equation can be written: 1/4 x+1/6 age of his, and j represents the age of youth. we also know that leah is 6 years older than his, so we can write the equation, l = s + 6. Since young is 5 years older than leah, we can also write the equation, j = l + 5. the expression for l, or s + 6, can be replaced in the equation, j = l + 5, giving j = s + 6 + 5, or j = s + 11. Now, the expressions of l and j can be replaced in the equation, which represents the sum of their age. in this way it gives: s + 6 + s + 11 = 41, or 3s = 24, where s = 8. So, his is 8 years.7. the esimple interest is represented by the formula, i = prt, where p represents the main amount, r represents the interest rate, and t represents the time. replace $4,000 per p, 0.06 per r, and 5 per t gives i = (4000)(0.06)(5), or i = 1200. So, it will receive $1,200 in interest.8. A$670 = cost + 0.35(Cost) = 1.35(Cost), cost = $670/1.35 = $496.309. dla amount of taxes is $55*0.003, or $0.165. rounding to the nearest cent gives 17 cents. 10. the gpa can be calculated by writing the expression ((3*2)+(4*3)+(2*4)+(3*3)+(4*1))/13, which corresponds to 3, or 3.0.11. from 8:15 A.M. to 4:15 P.M., it is paid $10 per hour, with the total amount paid represented by the equation, $10*8=$80. from 4:15 until 10:30 P.M.,paid $15 per hour, with the total amount paid by the equation, The sum of $80 and $93.75 is $173.75, so it was paid $173.75 for 14.25 hours of work. 12 Dif removes 13 jelly from the pocket, will have 3 remaining jelly, with each color represented. If it removes only 12 jelly, green or blue cannot be represented. 13 AThe z value can be determined by dividing both sides of the equation, r=5z, of 5. Thus giving r/5=z. Replace r/5 for variable, z, in equation, 15z=3y, gives 15(r/5)=3y. Solving for y gives r = y.14 A50 cents is half a dollar, so the ratio is written as half of 300, or 150, to x. The equation representing this situation is 300/x*1/2=150/x.15 BThe following proportion can be used to determine how much Lee will do next week: 22/132=15/x. Fix for x gives x = 90. So, he'll make $90 next week, if he works 15 hours. 16 The date equation should be resolved by x. Replace the x value of 6 in the expression, 5x + 3, gives 5(6) + 3, or 33.17 CThe amount you will pay for the book can be represented by the expression, 80+(80*0.0825) So, you will pay $86.60 for the book. The change you will receive is equal to the difference of $100 and $86.60, or $13.40.18 BL' amount you paid for the car can be written as $3,000 + 6($225,) which is $4,350.19 AYou will need 40 packs of pens and 3 sets of staplers. Therefore, the total cost can be represented by the expression, 40(2.35) + 3(12.95) The total cost is $132.85.20 CSubsting 3 per y da 33 (33-3,) which is 27(27 – 3,) or 27(24.) Thus, the expression is 648. STAAR study guide with practice questions1. equations can be used to solve the number of tomatoes and cucumbers vivian will plant in its garden? T + c = 40 and t + 3c = 80 t + 3c = 40 and t + c = 80 t + c = 40 and t + 3c = 40 3t + c = 80 and t + c = 408. { (5,8), (3,4), (-1,-4), -(3, -8,) (-5,-12)} what is the range of coordinate pairs? {5, 8, -5, -12} {-1, -4} {-5, -3, -1, 3, 5} {-12, -8, -4, 8}9. joshua must earn more than 92 points on the state test to qualify for an academic scholarship. each question is worth 4 points, and the test has a total of 30 questions. let x represent the number of test questions. which of the following inequalities can be resolved to determine the number of questions on the child should be answered correctly?4x < 304x < 924x > 304x > 9210. aisha runs a small shop selling candy bars to his classmates at school. she buys every candy bar for $0.75, andsells every candy candy bar1.50. That you represent Aisha's profit. Let x represent the number of bars that sells per day. What better equation represents The daily profit of Aisha from the sale of candy bars?y = 0.75x – 1.50xy = 0.75x + 0.75xy = 1.50x + 0.75xy = 1.50x – 0.75xSTAAR Test Prep Materials - Compound PercentagesAlgebra 1 Answer Key1. Answer: B The equation describes a functional relationship between x and f(x). To solve the equation, replace 10 as x value, such that f(10)=5(10)+10=50+10=60.2. Answer: C Let = the number of girls in the class of Mr. Robinson. The relationship between boys and girls is 4:1. So for every 1 girl in the class, there's four boys in the class. Therefore, 4y is equal to the number of boys in the class of Mr. Robinson. The total number of students in the class is 20. Therefore, the number of boys plus the number of girls equal 20 or y+4y=20 5y=20 y=4 So y =4 and 4y = 16. Therefore, 4 = number of girls and 16 = number of boys. In addition, 4 + 16 = 20, the total number of students in the class.3. Answer: C The distribution property says that the terms within a set of brackets can be multiplied by a factor outside the brackets. In other words, a(b+c) = ab + ac. Answer C adapts to this definition.4. Answer: B A mathematical operation is switching if altering the order does not alter the result of the operation. In other words, a+b = b+a, or ab = ba. Answer: D First write Equation A in the form of slope-interception: y =mx+b where b is the interception y and m is the slope: 10 y – 5x = 40 10 y = 5x + 40 y = 0.5x + 4 Based on form of slope-interception of equation A, interception y b = 4, and slope m = 0.5.6. Answer: D Write the equation in the form of slope-intercept: y = mx+b where m is the slope of the line and b is the interception y. In this case, the gradient m = 20 and the interception y b = 100. So y = 20x+1000.7. Answer:Since vivian will plant a total of 40 vegetables, the number of tomatoes plus the number of cucumbers is 40 or T+C = 40. 40.costs $1; then multiply the number of tomatoes of 1. Each cucumber costs $3; then multiply the number of cucumbers of 3. Vivian has a total of $80 to spend on tomatoes and cucumbers. Then T+3C = 80.8. D The list of coordinate pairs represents the x and y values of five points. The range is all y values. Answer: D To determine the number of questions Joshua must answer correctly, consider the number of points he has to earn. Joshua will receive 4 points for each question that answers correctly, and x represents the number of questions. So, Joshua will receive a total of 4x points for all questions he answers correctly. Joshua has to earn more than 92 points. In order to determine the number of questions you have to answer correctly, solve inequality 4x>9210. Answer: D To calculate the daily profit of Aisha, first determine the amount of money that Aisha earns to sell candy. Since x represents the number of candy bars that sells per day, and sells every bar for $1.50, then its daily earnings equal to 1.50x. Later, determine how much money Aisha spends buying caramel. Since each bar costs $0.75, it spends a total of 0.75x buy candy. Finally, subtract the amount of money spends the purchase of caramel from the amount of money earning by selling caramel. Since you represent its daily profits, y = 1.50x – 0.75x. Take the Varsity Learning Tools free diagnostic test for Algebra 1 to determine which academic concepts you understand and which require your continuous attention. Each Algebra 1 problem is marked to the core, underlying concept that is tested. Algebra 1 diagnostic test results highlight how you perform in each test area. You can then use the results to create a customized study plan that is based onparticular need area. algebra i is a course designed to give students a solid understanding of the mathematical equations involvingas well as teaching them the basics of graphite and manipulating simple functions. Students typically take Algebra The about the eighth or ninth grade, although some may take the class sooner or later, after they had a course in Pre-Algebra, but before attempting such topics as Algebra II, Geometry, or more difficult mathematical classes. Establishing solid foundations in Algebra I, students can prepare for success in later mathematics and science courses, all of which take knowledge of algebraic concepts. That Tutor Algebra 1 superior to Boston, Tutor Algebra 1 in Detroit, or Tutor Algebra 1 superior to Dallas Fort Worth, working with a professional can bring your studies to the next level. Generally, the first thing students learn to do in Algebra I is to solve a single-variable equation, i.e. an equation in which there is only one variable, "x". Students then learn linear functions in the format "y = mx + b" graphic; This part of the course introduces the concepts of slope, y-intercept, and x-intercept, and teaches students with linear equations chart. An important part of Algebra I'm learning how to convert information from equations to charts and charts to equations, and how to analyze equations and charts as related concepts is a fundamental part of the course. For example, some problems in Algebra can present students with two points on a coordinate plane, then ask them to find the equation of the line connecting the two points, determining the equations of lines that are parallel and perpendicular to that line, respectively. Varsity Tutors offers resources such as free Algebra 1 diagnostic tests to help with your self-paced study, or you may want to consider a Algebra 1. Inequalities are also taught in Algebra The same way as the equations, i.e. with the emphasis on their representation on the numerical lines ortheir photographs. After learning to solve and graphic simple linear functions and inequalities, students learn to solveof equations or inequalities using replacement and elimination techniques. Once students have learned linear equations, the class moves to deal with square equations, the charts of which parables. Algebra I focuses on the resolution of square functions using the square and FOIL formula, as well as parable charts and manipulating their appearance through changes made to the equation of origin. Other concepts that can be introduced in various points within the Algebra classes Statistics and probability, percentage and percent change. Although it is not directly related to equations, functions and graphs, these concepts can be taught so that it reflects the back-and-forth logic used to teach students functions and their charts. For example, a focus when learning per cent is how to convert a percent to a decimal and vice versa, and when expressing the likelihood of an event that occurs, students also necessarily understand the probability of the event does not occur. The mathematical concepts that students master in Algebra They form the core of their mathematical understanding in many successive classes in mathematics and science. For this reason, it is essential that students gain a solid understanding of algebraic concepts before proceeding to higher-level mathematical classes. If you want to start learning or review Algebra I material right now, you can use Algebra I Practice free tests by Varsity Tutors to do so. Every practice of twelve questions The test is given as a short multi-choice quiz that touches many concepts that are taught in the Algebra I classes. After completing a quiz, not only do you get to see your rough score, but also as your score stacks against scores of others on a basic question per request. This can provide a little bit off you lose problems that others have also found extremely difficult, or some motivation if you notice that you lose the questions that others have found to be easy. All Tutors of Varsity Algebra The questions also come withexplanations, so you can learn from questions by either addition to Algebra 1 practice tests and Algebra 1 tutoring, you can also consider taking some of our Algebra Flashcards 1. You may also start the review process by taking a free practice test of Algebra I. The extended format of these practice tests can help you discover the current level of competence and the pace of testing-taking. After you finish the test, the results page will provide you with the same information metrics, in-depth explanations and additional review resources offered by the specific practice tests of the class. These online practice tests can also help you perfect your study plan Algebra Customised by showing you what concepts need greater attention. After spending some time reviewing, you can evaluate your progress by returning to take another Algebra I Full-Length practice test. Using Algebra I Test Practice free tests by Varsity Tutors and other free resources from Algebra I, you can strengthen your Algebra I knowledge and master the content of the subject in no time! This will give you a great base for mathematical and scientific knowledge that you will get in future courses. Take one of our many Algebra 1 practice tests are the perfect way to brush your skills. Take one of our many Algebra 1 practice tests for a commonly asked questions execution procedure. 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