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If t represents time, weeks later, and $P(t)$ rabbit populations relative to time, about how many rabbits will be in 98 days? 3 When fully counted, $m_5 + m_3 - 6m$ equivalent to 4 If $\sin^2(32^\circ) + \cos^2(M) = 1$, then M equals 5 Which equation system solution $y = 3x - 2$ and $y = g(x)$ where $g(x)$ is determined by the function below? 6 What is the claim of statistical analysis false? (1) Experiments can offer patterns and relationships in data. (2) Experiments can identify cause-and-detect relationships. (3) Observational studies may determine cause-and-effect relationships. (4) Observational studies may suggest patterns and connections in data. 7 Expression $(m_2m_1/2) \cdot 1/2$ equivalent to 8 What is inverse function $y = \log_3x$? 9 Gabriel conducted an experiment to see if planting 13 tomato plants in black plastic mulch leads to larger tomatoes than if 13 plants were planted without mulch. He noted that the average weight of tomatoes from tomato plants grown in black plastic mulch was 5 ounces larger than those of plants planted without mulch. To determine whether the observed difference is statistically significant, it has 100 times randomized groups of tomatoes to study these random differences in middleweights. The output of his modeling is summed up in the subsidy below. 10 If $p(x) = abx$ and $r(x) = cd2$, then $p(x) \cdot r(x)$ equals 11 Solutions equation $18x^2 - 24x + 87 = 0$ is 12 When $g(x) = 2/(x+2)$ and $h(x) = \log(x + 1) + 3$ written on the same set of axes that best align their approximate point of intersection? Show step-by-step solutions Algebra 2 - January 2017 Regents - Questions and Solutions 13 - 24 13 The price of the postage stamp in the years since the end of The First World War is shown in the scattering below. The equation that best models the price, in postage stamp cents based on this data, is 14 eighth and tenth terms of sequence 64 and 100. If the sequence or or geometric, the ninth term cannot be 15 The volume of sound is measured in units called decibels (dB). These units are measured by first-time 10 intensity purposes of a very soft sound called threshold sound. The sound to be measured is assigned intensity, I , and decibel rating, d , this sound is using $d = 10 \log_{10} I/I_0$. The threshold sound heard by the average person is $1.0 \times 10^{-12} \text{ W/m}^2$ (W per square meter). Consider the following sound level classifications: 16 Pedro and Bobby each own farm ant. Pedro starts with 100 ants and says his farm is growing in anticipation at a rate of 15% per month. Bobby starts with 350 ants and says his farm is steadily decreasing by 5 ants per month. Assuming both boys are accurate in describing the population of their ants, how many months will they both have roughly the same number of ants? 17 What solution, if any, equation $2/(x+3) - 3/(4-x) = (2x-2)/(x^2 - x - 12)$? 18 In 2013, about 1.6 million students passed part of a critical sat exam reading. Average score, modal score and standard deviation are calculated as 496, 430 and 115 respectively. What interval does 95% of critical reading metrics display? 19 What is the statement about the graphs of the following functions as untrue? 20 When $g(x)$ is divided into x^4 , the rest is 0. Given $g(x) = x^4 + 3x^3 - 6x^2 - 6x + 8$, what conclusion about $g(x)$ is true? 21 Joelle has a credit card that has a 19.2% annual interest rate, which is complicated monthly. She owes the total balance of B dollars after m months. Assuming it makes no payments on its account, the table below illustrates the balance it owes in months. For what period of time is her average change rate for the balance on her credit card account the largest? 22 What graph is the function of a kercnhem without horizontal shear, amplitude 2 and period $2p/3$? 23 According to the price website, Indroid phones lose 58% of their cash value within 1.5 years. What expression can I use to estimate the cost of an Indroid phone \$300 for 1.5 years? 24 The cardboard box company builds boxes with a length represented by $x + 1$, $5x$ wide, and x height x 1. The volume of the box is modeled using the function below. Show step-by-step solutions Algebra 2 - January 2017 Regents - Questions and Solutions 25 - 37 25 Express $(1 - i)^3$ in bi form. 26 Orange juice processing plant receives a load of oranges. The quality control team randomly selects three shares of oranges, each containing 50 oranges, from the truck. Determine the sample and population in a given scenario. The condition is one conclusion that a quality control team could make about the population if 5% of the sample was deemed unsatisfactory. 27 Using the block circle below, explain why $\csc j = 1/y$. 28 Function $M(t)$ mass rejoice over time, t , in years. $M(t) = 100e^{(\ln(1/2)/1500)}$ Determine whether the $M(t)$ function represents growth or decay. Explain your considerations. 29 On the grid below, draw a cubic polyn, zeros of which are 1, 3 and -2. 30 Given the equal timing of $3\sqrt{x/5}$ and $y/5/6$, identify and state y , in terms of x . 31 Student Body Survey Results at Central High School on the benefits of watching television are listed below. Are events male student and student preferring reality TV series independently of each other? Justi't make up your answer. 32. Considering $f(x) = 3x^2 + 7x - 20$ and $g(x) = x - 2$, quota status and remainder $f(x)/g(x)$, in the form $q(x) + r(x)/g(x)$ 33 Algebraically define the value h and k to correctly complete the identity specified below. $2x^3 - 10x^2 + 11x - 7 = (x - 4)(2x^2 + hx + 3) + k$ 34 Elaine decided to run buffalo half marathon in May. She has researched curricula online and is looking at two possible plans: Gillian's 12-week plan and Josh's 14-week plan. The number of miles per week for each plan will be drawn below. Which of the plans follows the arithmetic pattern? Explain how you came to your answer. Write a recursive definition that will mark the number of miles each week during the selected plan. Gillian's plan has an alternative if Elaine wanted to train instead for a full 16-mile marathon. Week one will start at 13 miles and follow the same model for the half marathon, but it will continue for 14 weeks. Write an explicit formula, in the simplest form, to present the number of miles to run each week for a full marathon training plan. 35 Management reported that of the senior class, 2.3% are members of a key club, K , 8.6% study at AP Physics, P , and 1.9% are in both. Determine the probability of P given K up to the next tenth of a percent. The principal would like a basic interpretation of these results. Write a statement related to your calculated probabilities of enrolling students in this situation. 36 Using the formula below, define a monthly payment on a 5-year auto loan with a monthly interest rate of 0.625% for a car with a starting value of \$21,000 and a \$1,000 down payment, up to the nearest cent. 37 The speed of the tide wave, and, at hundreds of miles per hour, can be modeled by the equation $s = \sqrt{t} - 2t + 6$, where t represents time from its origin in hours. It is algebraic to determine the time when $s = 0$. How fast was the tidal wave driving 1 hour later than 3 hours to the nearest mile per hour? Justit make up your answer. Show step-by-step solutions Try the free Mathway calculator and problem solver below to practice various mathematical topics. Try these examples or enter your own problem and check the answer with step-by-step explanations. We welcome your feedback, comments and questions about this site or Please send your feedback or requests on our feedback page. Related topics: More lessons for high school exam regents more lessons for algebra high school math based on topics needed for exam regents conducted by NYSED. Below are the spent solutions for 2/trigonometry algebra (Common Core) Regents High School Examination January 2017. Below are questions from the past article regents High School Algebra 2/Trigonometry, January 2017 Exam (pdf). Scroll down to find step-by-step solutions. Algebra 2/Trigonometry - January 2017 Regents - Questions and Solutions 1 - 14 1. What is 510° expressed in radian measure? 2. Four surveys are described below. Which survey methodology will lead to the least biased conclusion? (1) One hundred randomly selected career surgeons were interviewed over the phone about how to get children to eat healthier foods. (2) The country and western radio station asked a hundred of its listeners to call the phone number and answer questions about rap music. (3) From calls made to a hundred randomly generated phone numbers, people have answered questions about the TV shows they watch. (4) The first hundred people who left the World Baseball Bookstore answered questions about the importance of baseball to Society 3. With fully factoring $x^4 - 13x^2 + 36$ equivalent to 4. Which ordered pair is the solution to the system below? $x^2 - 4y^2 = 16$ $y = x - 4$ 5. Three freshmen, five sophomores and four juniors are on the school's chess team. What expression can be used to determine how many different groups of three students can be made of this team? 6. The survey of high school girls showed that the average number of text messages sent on the day by girls is 62, with a standard deviation of 12. If normal distribution is assumed, what interval represents the number of texts sent by 68.2% of girls? 7. The expression $93/2 \cdot 271/2$ is equivalent to 8. $\text{Arc cos}1/2/\text{Arc tan ratio}$ is 9. What summation will not produce $2 + 4 + 6 + 8 + 10 + 12$? 10. Expression $1/3 \cdot \sqrt[6]{3m \cdot \sqrt{2} - k \cdot \sqrt{3}}$ is equivalent to 11. If $\log_3(x + 1) - \log_3x = 2$, then x equals 12. Which relationship is not a function? 13. What is the parallelogram area of ABCD if $AB = 4$, $AD = 5/3$, and $m\angle A = 60^\circ$? 14 The maximum point in the graph equation $y = f(x)$ is (2.3). What is the maximum point in the graph equation $y = f(x - 4)$? Show Step-by-Step Solutions Algebra 2/Trigonometry - January 2017 Regents - Questions and Solutions 15 - 27 15. Formula n th term sequence 3, -6, 12, -24, 48, . . . is 16. Expression $3/(a-1) + 3/(1-a)$ is equivalent to 17. The product $(2\sqrt{2} + 5i)$ and $(2\sqrt{2} - 5i)$ is 18. What quadratic equation has roots with a sum of $7/6$ and a product $-1/2$? 19. Range $f(x) = 3|x - 4| - 5 - 20$. The graph equation $y = mx$ passes through point 21. If $\sin \eta = 1/2$, and the δ stops in Quadrant II, what is the value $\csc j \cdot \cot j$? 22. The circle has a radius of 12 units. To do this, what is the expression incorrectly indicated by the length of the arc intercepted by a given center angle? 23. How many different four-letter arrangements can be made of letters in the word CHAIRS, if the same letter can be used only once? 24. The following sets present test scores for two students in Mrs. Silvio's trigonometry class. Michelle: {71, 68, 84, 88} Valerie: {78, 82, 76, 80} What statement correctly describes the link between the two students' test scores? 25. The support wire 20 meters long passes from the top of the utility pole to the point on the ground 17 meters from the base of the pillar. What is the measure, until the next minute, of an angle formed by a pole and wire? 26. If $f(x) = 3x - 2$ and $f^{-1}(x) = (x+2)/3$, $f \circ f^{-1}(x)$ equals 27. The $f(x)$ graph is shown below. What graph does $f^{-1}(-1)(x)$ represent? Show step-by-step solutions Algebra 2/Trigonometry - January 2017 Regents - Questions and Solutions 28 - 39 28. The number of bacteria that grow in Petri's dish, approximate function $G(t) = 500e^{0.216t}$, where t time, in minutes. Use this model to approximately, to the nearest integer, the number of bacteria present after half an hour. 29. Define the exact value $(27/64)^{-2/3}$ as a fraction in the simplest form. 30. The state of the conjugate $7 - \sqrt{-48}$ is expressed in the simplest form of $a + bi$. 31. Express $12x^5y^5/24x^3y^2$ in its simplest form, using only positive exponents. 32. In a theater with 30 rows, the number of seats in a row increases by two with each consecutive row. The front row has 15 seats. Find the total capacity of the theater. 33. Given $f(x) = x^2$ and $g(x) = x - 3$, express $g(f(x + 2))$ as polynomial in the simplest form. 34. Draw a 250° angle in the standard position and then express $\cos 250^\circ$ as a cosine function of a positive sharp angle. 35. Solve inequality $x^2 - 3x - 4 \leq 0$ algebraic for x . 36. The table below shows the minimum hourly wage, in US dollars, for selected years since 1955. Write a linear regression equation for this data set, rounding all values to three decimal values. The strength and direction indicated by the correlation coefficient is 37. Solve the equation system algebraically for x and y : 38. The missile fired vertically into the air. Its height, h , at any time, t , in seconds, can be modeled by the equation $h = -16t^2 + 184t$. 39. Forces of 22 pounds and 43 pounds operate on the object at an angle of 52° . Determine, to the nearest pound, the value of the resulting force. Find, to the nearest degree, an angle between a smaller and the resulting power. Show step-by-step solutions Try the free Mathway calculator and problem solver below to practice various mathematical topics. Try these examples or enter your own problem and check the answer with step-by-step explanations. We welcome your feedback, comments and questions about this site or page. Please send your feedback or requests on our feedback page. Page.