Converted Document - English Section

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# Page 1

Section 2, Module 1: Math | unknown 311 الا 12- 10 -8 -10-8 9- -2- X -4 -2 2 4 6 8 10 The graph of the function f is shown, where y = f().What is the value of f(0)? A. 6 B. 2 C. -2

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# Page 2

Section 2, Module 1: Math | unknown 313 170 A certain bonefish can swim at a maximum speed of 17 meters per second. At this maximum speed, how many meters would this bonefish swim in 10 seconds?

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# Page 3

31 The function f is defined by f(x) = 25x +70. What is the value of f(x) when x = 2? B. 97

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# Page 4

319 A. P(t) = 1,200(1.06) The function P gives the estimated number of sea lions in a certain area, where t is the number of years since a study began. What is the best interpretation of P(0) =1,200 in this context? The estimated number of sea lions in the area increased by 1,200 each year during the study. B. The estimated number of sea lions in the area increased by 106 each year during the study. C. The estimated number of sea lions in the area was 1,200 when the study began. D. The estimated number of sea lions in the area was 106 when the study began.

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# Page 5

316 Which expression is equivalent to 7x(x +4)? A. 7x2+4 B. 7x²+28x c. 8x²+4 D. 8x² +11x

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# Page 6

Cirde N has a radius of 8 millimeters (mm). Cirde M has an area of 144π mm². What is the total area, in mm², of cirdes N and M? B. 160

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# Page 7

318 The graph shows the number of intemet users worldwide y, in billions, years after 2007. 5 4 Intemet users 3- worldwide (in billions) 2- 1- Ο 1 2 3 4 5 6 7 8 9 Years after 2007 Which of the following is dosest to the number of intemet users worldwide, in billions, 5 years after 2007? A. 1.4 В. 2.4

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# Page 8

319 41 Points Fand G lie on a cirde with center H. Segment FG is a diameter of the cirde. If the length of segment FG is 82 centimeters, what is the length, in centimeters, of segment FH?

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# Page 9

320 y=7(x-1)-8 For which of the following tables are all the values of and their corresponding values of y solutions to the given equation? A. x y 0 15 1 57 2 351 B. x y 이 -1 1 41 2 335 C. x 3 0 57 57 1 9 2 15 D. x y 0 55 7 1 -7 2 -1

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# Page 10

321 The table gives the number of hours, h, of labor and a plumber's total charge f(h), in dollars, for two differentjobs. hf(h) 1 120 3 220 There is a linear relationship between h and f(h). Which equation represents this relationship? A. f(h) =20h+100 B. f(h) 100h+20 C. f(h) = 50h+70 D. f(h) =70h+50

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# Page 11

322 43 C B Note: Figure not drawn to scale. 23 In the right triangle shown, what is the value of cos A? A. B. 23 c. 23 D.

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# Page 12

32 What is the slope of the graph of 60x-10y= -48 in the xy-plane? C

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# Page 13

32 For an object with a mass of 65 kilograms, the given equation relates the kinetic energy K, in joules, of the object to the object's speed v, in meters per second, where K and v are positive.Which equation correctly expresses this object's speed, in meters per second, in terms of the object's kinetic energy, in joules? A. v= 2K 652 B. v= 652 2K C. 2K 65

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# Page 14

329 A farmer gave two groups of chickens different types of chicken feed for a month to measure the effect on egg production. The lists give the number of from each chicken in each of the two groups. Group G: 8, 16, 18, 18, 24 Group H: 16, 18, 18, 24 Which statement correctly compares the of for group G and the median number of for group H? A. The of for group G is equal to the of for group H. B. The of for group G is greater than the of for group H. C. The of for group G is less than the of for group H. D. There is not enough information to compare the of for group G and the of for group H.

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# Page 15

320 x(x − 14)(x +9)(x-5)2=0 What is the greatest solution to the given equation? 14

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# Page 16

327 x2-9x+1=0 What is one of the solutions to the given equation? A. 9+√77 2 B. 9+v85 2 C. -9+77 2 2

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# Page 17

328 In the relationship between variables x and y, each increase of 8 in the value of decreases the value of y by 3.When the value of is 16, the value of y is 10. Which equation represents this relationship? A. y = +10 B. y = - +16 C.y=-+10 D. y = - +學

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# Page 18

329 y=3x+5,000 y=-3x+13,000 The solution to the given system of equations is (x,y). What is the value of 2y? A. 36,000 B. 18,000

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# Page 19

330 The points (0, 15), (10, 8), and (10,3) are shown in the xy-plane, where the x-axis and y-axis are measured in units. 500 y 16 14- 12 10- 8 6 4- 2- 이 1 2 3 4 S 6 7 8 9 10 These points define one of the bases of a triangular prism. The distance between the two bases of the prism is 20 units.What is the volume, in cubic units, of the prism?

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# Page 20

33 5(7-) 8(7-) If 4+ 2 ३ , what is the value of 7-x? 24

Words on this page: 15

# Page 21

A G C Note: Figure not drawn to scale. D F E In the figure, triangle ABF is congruent to triangle EDG, where B corresponds to D. The measure of angle BCG is 56°. What is the measure, in degrees, of angle EDG? A. 28 B. 34

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# Page 22

333 19 A number æ is less than 8 more than times the value of a number y. If y is an integer and = 17, what is the least possible value of y?

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# Page 23

557 y=(x-6)(x+5) y =11x -66 Which ordered pair (x,y) is the solution to the given system of equations? A. (6,0) B. (6,-5) c. (0,6)

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# Page 24

There is a linear relationship between the amount of salt æ, in grams, and the amount of water y, in liters, in a certain body of seawater. The table shows this relationship for three samples of this seawater. Amount of water Amount of salt (grams) (liters) 217 7 248 8 279 9 Which equation represents this relationship? A. y= B. y = C. y = 31x D. y = 62x

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# Page 25

559 48 The function m is defined by m(x) = 3x +6, and the function p is defined by p(x) = 6- x. What is the value of 2m(6) - p(6)?

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# Page 26

560 For a certain type of rope, the equation y = 900ax2, where a is a constant, gives the estimated breaking strength y, in pounds, of a rope with a circumference of x inches. Based on this equation, if a rope of this type has a circumference of 2.75 inches, it has an estimated breaking strength of 9,528.75 pounds. What is the estimated breaking strength, in pounds, of a rope of this type that has a circumference of 8.50 inches? 91035

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# Page 27

561 Kai used fabric measuring 4 yards in length to make each costume for a school play. The relationship between the number of costumes that Kai made,x, and the total length of fabric that he purchased y, in yards, is represented by the equation y-4x = 5. What is the best interpretation of 5 in this context? A. Kai made 5 costumes. B. Kai purchased a total of 5 yards of fabric. C. Kai used a total of 5 yards of fabric to make the costumes. D. Kai purchased 5 yards more fabric than he used to make the costumes.

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# Page 28

562 The function f is defined by f(x) =7x - 165. If the point (k, 2k) lies on the graph of y = f(x) in the xy- plane, where k is a constant, what is the value of k? B. 14

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# Page 29

563 (+) +31 = 31 In the given equation, k is a constant. How many distinct real solutions does this equation have? A. Zero B. Exactly one C. Exactly two D. Infinitely many

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# Page 30

564 M N L K 736 Note: Figure not drawn to scale. In quadrilateral KLMN shown, KL = 3, LM = 3, KN = 27, and MN = 27. Diagonals KM and LN (not shown) intersect at point G (not shown), where GK = 1 and GM = 1. If the length of diagonal LN is √p+√w, where p and w are integers, what is the value of p+ w?

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# Page 31

565 Four different research groups each surveyed a random sample of students from a certain high school to estimate the percentage of students at the school who speak a second language. The table shows the resulting estimates and their associated margins of error. Percentage of students who speak a second Group language Margin of error 1 41% 13% 45% 11% 45% 8% 47% 15% 2 3 4 Assuming the margins of error were calculated in the same way, which group had the largest sample size? A. Group 4 B. Group 3 C. Group 2 D. Group 1

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# Page 32

56 c(x - 6) = -7(+k) In the given equation, c and k are constants. The equation has exactly one solution. Which of the following statements must be true? A. The value of c camot be -7. B. The value of c camot be - C. The value of k camot be D. The value of k camot be -6.

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# Page 33

567 0.63 During the first 8.00 seconds aftera car started moving, its speed increased to 11.0 meters per second. From 8.00 seconds to 14.0 seconds after the car started moving, its speed increased from 11.0 meters per second to 23.0 meters per second. To the nearest hundredth, what is the positive difference between the average rate of change of the speed ofthe car, in meters per second per second, during the first 8.00 seconds after the car started moving and the average rate of change of the speed of the car, in meters per second per second, from 8.00 seconds to 14.0 seconds after the car started moving?

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# Page 34

568 The function f is defined by f(x) = a² - b, where a and b are constants. In the xy-plane, the graph of y = f(x) passes through the points (c, 4) and (2c, 114), where c is a constant. Which of the following could be the value of b? A. 7 B. 14

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# Page 35

569 f(x) =4x2+56x +197 The function g is defined by g(x) = f(x+6). What is the minimum value of g(x)? A.-13 B. -7

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# Page 36

570 The percent increase in mass of a certain red kangaroo from 110 days old to 210 days old was 773%. If this red kangaroo's mass was k grams at 110 days old, which expression represents its mass, in grams, at 210 days old? A. 0.07k B. 1.07k C. 7.73k D. 8.73k

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# Page 37

57 A cirde in the xy-plane has its center at (-4,-7). Line k is tangent to this cirde at the point (-7,-8). What is the slope of line k? A.-3 B. - c.

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# Page 38

572 (x-k)2= (k-4a)(x-k) In the given equation, a and k are constants, where k > 4a. The sum of the solutions to the equation is 3k+37. What is the value of a? -37/4

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# Page 39

57: Javier deposits $45 in a savings account at the end of each week. At the begiming of the 1st week of a year there was $900 in that savings account. How much money, in dollars, will be in the account at the end of the 4th week of the year? A. 720 B. 945

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# Page 40

574 y S 57 १ Note: Figure not drawn to scale. In the figure, line q is parallel to line r, and both lines are intersected by line s. If y = 2x+7, what is the value of x? A. 25 B. 32

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# Page 41

579 The function f is defined by f(x) = a\* - b, where a and b are constants. In the xy-plane, the graph of y= f(x) passes through the points (c, 5) and (2c, 137), where c is a constant. Which of the following could be the value of b? A. 7 B. 16

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# Page 42

57e The percent increase in mass of a certain red kangaroo from 90 days old to 160 days old was 438%. If this red kangaroo's mass was k grams at 90 days old, which expression represents its mass, in grams, at 160 days old? A. 0.06k B. 1.06k C. 4.38k D. 5.38k

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# Page 43

577 Javier deposits $55 in a savings account at the end of each week. At the begiming of the 1st week of a year there was $900 in that savings account. How much money, in dollars, will be in the account at the end of the 4th week of the year? A. 680 B. 955

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# Page 44

578 y S 37° q r Note: Figure not drawn to scale. In the figure, line q is parallel to line r, and both lines are intersected by line s. If y = 2x+9, what is the value of x? A. 14 B. 23

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