LINDEN PUBLIC SCHOOLS

Office of Secondary Mathematics

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INCOMING GRADE 7

June, 2018

Dear Parent/Guardian:

The Linden Public Schools recognizes the value of maintaining mathematics levels that students have acquired during the 2017-2018 school year. To that end, this year, the district will be implementing a new and improved Summer Math Packet to provide engaging mathematical problems for students to practice over the summer months.

Students will be required to bring their handwritten Summer Math Packet to school on Friday, September 7, 2018. In an effort to encourage individual and thoughtful responses, only **handwritten packets** will be accepted unless a student's IEP/504 indicates otherwise. The Summer Math Packet will count as a QUIZ grade for Marking Period 1. Attached in this packet is the grading rubric.

This year, each student will be given a copy of the Summer Math Packet prior to the end of the school year. In addition, the Summer Math Packet will be available to be printed from the Linden Public Schools website at www.linden.k12.nj.us. If you have any questions, you may contact me in my office at (908) 486-2212 x8455.

Wishing you a wonderful summer!

Sincerely,

Richard Sullivan
Director of Secondary Mathematics

Resources for Summer Math Packets

The following websites may be useful tools as you work through the Summer Math Packet.

- https://www.khanacademy.org/ Video demonstrations on various topics
- http://www.algebralab.org Lessons, practice problems
- http://www.algebra-class.com Lessons, practice tests
- http://college-cram.com/study/ Lessons, study sheets, practice worksheets, & quizzes
- http://www.algbasics.com/ Video lessons with explanations
- http://www.purplemath.com/ Lessons with explanations
- http://www.coolmath.com/ Written lessons with examples, dictionary, math games

As an alternate source of information, please email one of the Linden Public Schools Mathematics teachers, Mrs. Vangipuram, at mvangipuram@lindenps.org. Please include a picture of your work and ask specific questions.

2018 Linden School District Summer Packet Rubric

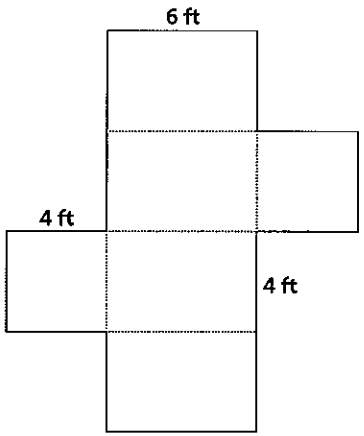
Name:_____ Total Points: _____ Grade: _____

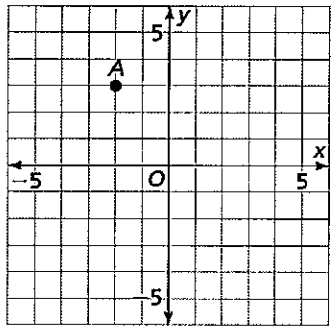
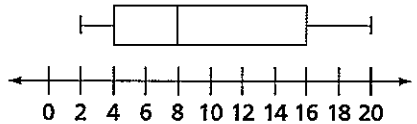
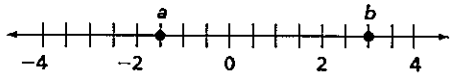
Category	5	4	3	2	1/0
Completion	All problems are completed	At least 27 problems are completed	At least 18 problems are completed	At least 9 problems are completed	Less than 9 problems are completed
Mathematical Reasoning and Errors	Uses complex and refined mathematical reasoning. 90-100% of the steps and solutions have no mathematical errors	Uses effective mathematical reasoning. Almost all, 75-89%, of the steps and solutions have no mathematical errors	Some evidence of mathematical reasoning. Most, 50-74%, of the steps and solutions have no mathematical errors	Little evidence of mathematical reasoning. More than 50% of the steps and solutions have mathematical errors	No evidence of mathematical reasoning. There are barely any questions that have correct steps and solutions
Mathematical Concepts & Terminology and Notation	Explanation shows complete understanding of the mathematical concepts used to solve the problems. Correct terminology and notation are always used, making it easy to understand what was done.	Explanation shows substantial understanding of the mathematical concepts used to solve the problems. Correct terminology and notation are usually used, making it fairly easy to understand what was done.	Explanation shows some understanding of the mathematical concepts needed to solve the problems. Correct terminology and notation are used, but it is sometimes not easy to understand what was done.	Explanation shows very limited understanding of the underlying concepts needed to solve the problems. There is little use, or a lot of inappropriate use, of terminology and notation	There is no understanding of the concepts needed OR is not written. There is no use of terminology or notation

Name: _____

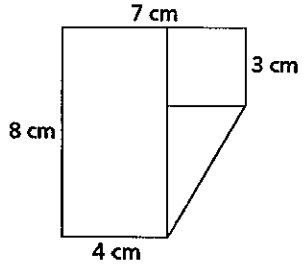
Summer Math Packet for Incoming 7th Grade

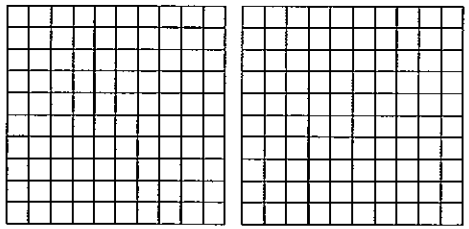
Date	Q#	Question	Rationale/Explanation	Work	Answer
	1	Which of the following expressions has a value of 4? a) $(16-12)^2$ b) $-\|-4\|$ c) $(96\div 8)-2^3$ d) 2^4-4^2			
	2	Tai's baby brother weighs 3,745 grams. What is his weight in kilograms?			
	3	A rectangle on a coordinate plane has vertices at (7, 5), (–7, 5), (–7, –2), and (7, –2). What is the perimeter of the rectangle?			
	4	Which statement represents the situation described below? The cost c of a shirt is less than $27.50.			

Date	Q#	Question	Rationale/Explanation	Work	Answer
	5	Jayden uses the net below to design a box.  How much cardboard will Jayden need to make the box?			
	6	Kenji earned the test scores below in English class. 79, 91, 93, 85, 86, and 88 What are the mean and median of his test scores?			

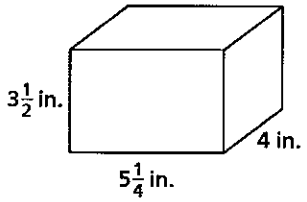
Date	Q#	Question	Rationale/Explanation	Work	Answer
	7	Which coordinate pair represents the reflection of Point A across the y-axis? 			
	8	Which of the following statements about the box plot is true?  a) Minimum: 4 b) Maximum: 16 c) First quartile: 8 d) Third quartile: 16			
	9	The drama club spent \$8.50 per person on food for a cast party. The total cost of the food was \$229.50. How many people were at the cast party?			
	10	What are the values of a and b on the number line? 			

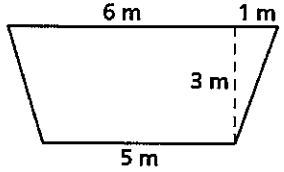
Date	Q#	Question	Rationale/Explanation	Work	Answer
	11	The boiling point of jet fuel is 329°F. Rounded to the nearest degree, what is the temperature in degrees Celsius? Use the formula $C = \frac{5}{9}(F - 32)$, where C represents degrees Celsius and F represents degrees Fahrenheit.			
	12	A gym charges a one-time fee of \$75 to join, plus membership dues of \$25 per month. Which equation represents the total cost, C, of belonging to the gym for m months? a) $C = 25m - 75$ b) $C = 25m + 75$ c) $C = 75m + 25$ d) $C = 75m - 25$			
	13	Divide $5\frac{3}{4} \div 1\frac{1}{2}$.			
	14	A 2-liter bottle of juice costs \$2.80. A box containing six 12-liter bottles sells for \$3.90. Which option has a higher cost per liter? What is that cost?			

Date	Q#	Question	Rationale/Explanation	Work	Answer
	15	Which equation represents the data shown in the table below? | x | y | |---|---| | 2 | 9 | | 3 | 12 | | 4 | 15 | | 5 | 18 | a) $y = 2x + 9$ b) $y = 3x + 3$ c) $y = 3x + 12$ d) $y = 4x + 1$			
	16	At Avery Middle School, 273 students responded to a survey asking whether a Bulldog, a Lion, or a Tiger should be the new school mascot. Four times as many students chose Bulldog as chose Tiger. Twice as many students chose Lion as chose Tiger. How many students chose Lion?			
	17	What is the area of the figure below?  			

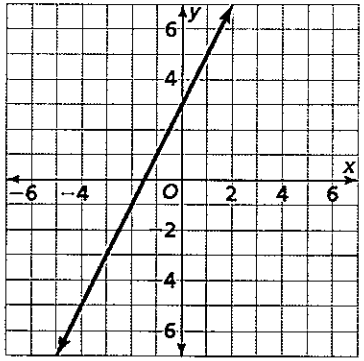
Date	Q#	Question	Rationale/Explanation	Work	Answer
	18	What percent of 50 is 15?			
	19	Which list of numbers is ordered from least to greatest? a) $6\frac{3}{4}, 6.57, -6.53, -6\frac{1}{4}$ b) $-6.53, -6\frac{1}{4}, 6.57, 6\frac{3}{4}$ c) $6\frac{3}{4}, 6.57, -6\frac{1}{4}, -6.53$ d) $-6\frac{1}{4}, -6.53, 6.57, 6\frac{3}{4}$			
	20	What percent is represented by the diagram below?  a) 13% b) 65% c) 130% d) 650%			
	21	Solve the equation below for x. $x - 15.2 = 76$			

Date	Q#	Question	Rationale/Explanation	Work	Answer
	22	Which of the following is a list of equivalent numbers? a) 1.25, $1\frac{1}{4}$, 12.5% b) 0.125, $\frac{1}{4}$, 12.5% c) 12.5, $12\frac{1}{2}$, 125% d) 1.25, $1\frac{1}{4}$, 125%			
	23	The boiling point of water is 212°F. The boiling point of helium is –452°F. How would you compare the temperatures using an inequality?			
	24	Sierra and Alek each have five cousins. Their ages are listed below. Sierra's cousins: 2, 11, 12, 13, 15 Alek's cousins: 9, 11, 11, 12, 13 Which of the following statements is true? a) For both sets of data, the median is equal to the mean. b) The ages of Sierra's cousins are more spread out than those of Alek's cousins. c) The mean age of Sierra's cousins is greater than that of Alek's cousins. d) There are no outliers.			

Date	Q#	Question	Rationale/Explanation	Work	Answer
	25	What is the greatest common factor of 60 and 75?			
	26	A quadrilateral is graphed on a coordinate plane. If the vertices are $A(2, 6)$, $B(6, 0)$, $C(2, -6)$ and $D(-4, 0)$, which two points are farthest apart? a) A and B b) B and D c) A and C d) C and D			
	27	What is the volume of the rectangular prism?  			

Date	Q#	Question	Rationale/Explanation	Work	Answer
	28	Isa finished 30% of his homework in 27 minutes. How many more minutes will it take Isa to complete his homework, assuming that he works at the same pace?			
	29	Bella is wrapping a cube-shaped gift box that measures 8.5 inches along each edge. How many square inches of wrapping paper is needed to cover the box completely without overlapping?			
	30	What is the area of this trapezoid? 			

Date	Q#	Question	Rationale/Explanation	Work	Answer
	31	Which of the following is a statistical question? a) What state were you born in? b) How tall is Ms. Lin? c) What are the ages of the students in your class? d) What is the formula for the circumference of a circle?			
	32	Solve the equation below for x. $3.25x = 8.125$			
	33	Which pair of expressions is equivalent? a) $15a + 6$ and $3(5a + 3)$ b) $14b + 4$ and $2(7b - 2)$ c) $5(2c + 3)$ and $7c + 8$ d) $3(d + \frac{5}{3})$ and $3d + 5$			
	34	A recipe calls for 3 avocados for each bowl of guacamole. How many full bowls of guacamole can be made with 17 avocados?			

Date	Q#	Question	Rationale/Explanation	Work	Answer
	35	Which coordinate pair represents the reflection of (–4, 6) across the x-axis? a) (4, –6) b) (–4, 6) c) (–4, –6) d) (4, 6)			
	36	Which of the following can be represented by the equation $y = 2x + 3$? **Table A** x | y 2 | 3 4 | 6 6 | 8 **Graph B**  a) Table A only b) Graph B only c) Table A and Graph B d) Neither Table A nor Graph B			

Incoming Grade 7 Summer Packet 2018 Answer Key

1. C
2. 3.745 kg
3. 42 units
4. B
5. 128 ft^2
6. Mean: 87; Median: 87
7. (2,3)
8. D
9. 27 people
10. a=-1.5, b=3
11. 165 °C
12. B
13. 3 5/6
14. 2-liter bottle: $1.40
15. B
16. 78 students
17. 48.5 cm^2
18. 30 %
19. B
20. C
21. X= 91.2
22. D
23. -425°F < 212°F
24. B
25. 15
26. C
27. 73 ½ $in.^3$
28. 63 minutes
29. 433.5 $in.^2$
30. 18 m^2
31. C
32. X = 2.5
33. D
34. 5 bowls
35. C
36. B