Bayonne Public Schools

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Dear Parents/Guardians,
As the end of the school year approaches, the Mathematics department has prepared a Summer Bridges Packet for your child to complete over the summer months.

These packets are:

- To reinforce previous mathematics topics they learned throughout the year
- To keep mathematics topics current
- To move forward with new mathematics vocabulary words to prepare students for future mathematics success

All assignments must be presented to your child's mathematics teacher no later than **September 18, 2019.** The packet will be graded. Students must show work for credit. In addition, students will receive a maximum of 10 points towards the first mathematics assessment in marking period one based on the correct completion of the summer bridges assignment.

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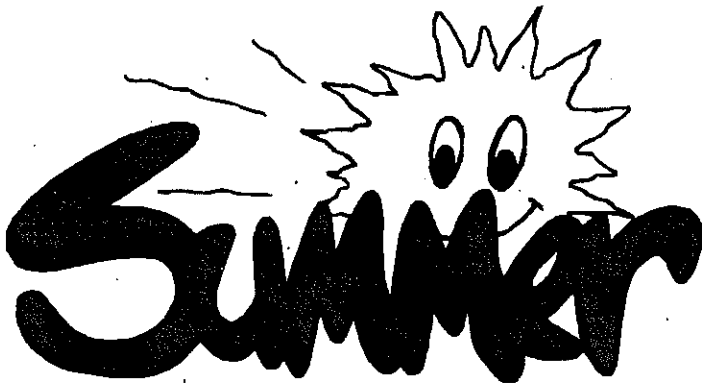
"The Bayonne Public School Family- Moving From Good to Great"



BRIDGES FROM
Grade 8
To
Algebra I

Name_____

School_____

Part One

MATH VOCABULARY

Give the math vocabulary definitions. Include a math example for each vocabulary word.

1. Absolute value
2. Coordinates
3. Domain
4. Equation
5. Exponent
6. Function
7. Independent Variable
8. Integers
9. Irrational numbers
10. Mean
11. Order of Operations
12. Ordered Pair
13. Origin
14. Positive Correlation
15. Rational Number
16. Real Numbers
17. Additive Inverse
18. Coefficient
19. Constant
20. Like terms
21. Matrix
22. Multiplicative Inverse
23. Reciprocal
24. Term
25. Cross Products
26. Equivalent Equations
27. Identity
28. Inverse Operations
29. Literal Equation
30. Percent of Error Proportion
31. Rate
32. Ratio
33. Similar Figures
34. Solution of an equation

ARE YOU READY?

Pre-Course Test

Whole Number Operations

Add, subtract, multiply, or divide.

1. $623 - 432$
2. 8×23
3. $882 \div 14$
4. $178 + 842$

Add and Subtract Decimals

Add or subtract.

5. $43.21 + 16.8$
6. $16.3 - 9.11$

Multiply Decimals

Multiply.

7. 2.3×0.6
8. 6.4×3.2

Divide Decimals

Divide.

9. $25.6 \div 8$
10. $0.84 \div 0.6$

Multiply and Divide Fractions

Multiply or divide. Give your answer in simplest form.

11. $\frac{2}{9} \times \frac{3}{4}$
12. $\frac{5}{9} \div 5$

Add and Subtract Fractions

Add or subtract. Give your answer in simplest form.

13. $\frac{3}{4} + \frac{5}{12}$
14. $1\frac{2}{9} - \frac{4}{9}$

Add and Subtract Integers

Add or subtract.

15. $-54 + 35$
16. $-18 - (-30)$

Multiply and Divide Integers

Multiply or divide.

17. $15(-4)$
18. $-30 \div (-6)$

Fractions, Decimals, and Percents

Write the equivalent decimal and the equivalent percent.

19. $\frac{4}{25}$
20. $\frac{9}{8}$

Order of Operations

Evaluate each expression.

21. $12 + 3 \div 3$
22. $3 + 2 \times 4^2$
23. $4 + 6 \times 10 - 2$
24. $25 \times (4 + 5)$

Distributive Property

Simplify each expression.

25. $5(12 + g)$
26. $(r - 6)9$

Rates and Unit Rates

Find each unit rate.

27. \$30 for 8 students
28. 96 packages in 6 days

Connect Words and Algebra

29. Mario has saved \$165. At the end of each week he saves an additional \$15. Write an equation representing the total amount S he has saved at the end of any given week w.

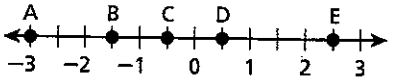
Graph Numbers on a Number Line

Identify the point on the number line that matches each number.

30. -0.5

31. 2.5

32. -3



Compare and Order Real Numbers

Compare. Write <, >, or =.

33. $\frac{5}{12}$ ■ $\frac{3}{4}$ **34.** $\frac{4}{20}$ ■ 20%

Evaluate Expressions

Evaluate each expression for the given value of the variable.

35. $5w - 16$ for $w = 6$

36. $-8 - \frac{2}{3}h$ for $h = 6$

Solve One-Step Equations

Solve each equation.

37. $5g = 135$ **38.** $x - 16 = 8$

Combine Like Terms

Simply each expression by combining like terms.

39. $3b - 32 + 4b$

40. $-3f + 4t - 3t + 6f$

Solve Multi-Step Equations

Solve each equation.

41. $4x + 16 = 40$ **42.** $\frac{x}{5} - 9 = 1$

Solve Proportions

Solve each proportion.

43. $\frac{3}{4} = \frac{z}{12}$ **44.** $\frac{10}{30} = \frac{6}{t}$

Function Tables

45. Generate ordered pairs for the function for $x = -2, -1, 0, 1, 2$.

$y = 5x + 3$

x	y
-2	■
-1	■
0	■
1	■
2	■

Ordered Pairs

Graph each point on the same coordinate grid.

46. $A(-3, -4)$ **47.** $B(2, 0)$

Graph Linear Functions

48. Graph the function $y = 2x + 1$.

Solve and Graph Inequalities

Solve and graph each inequality.

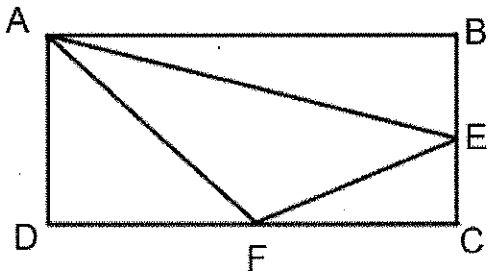
49. $b - 8 \geq -11$ **50.** $-\frac{3}{4}x > 3$

Algebra I Summer Bridges

Section 3: Problem Solving

1. Your report card comes out on the day the 8millionth second passes in the new (non-leap) year. What day is that?

2. Given the rectangle ABCD (shown below) has a total area of 72. E is in the midpoint of BC and F is the midpoint of DC. What is the area of the inscribed triangle AEF?



3. In order for Mateo to walk 1,000 meters in his rectangular backyard, he must walk the length 25 times OR the perimeter 10 times. What is the area of his backyard in square meters?

4. A circle and two separate lines are sketched on a sheet of paper. What is the largest possible number of points of intersection of these 3 figures?

5. A series of squares is made of identical square tiles, as shown below. The edge of each square is one tile length longer than the previous square. The first three squares are shown. How many more tiles does the seventh square have than the sixth?