Bergenfield High School
Bergenfield, New Jersey

# Mathematics Department

# Summer Course Work

**in preparation for**

# Algebra I

Name _____

***Bergenfield Public Schools***
**Mathematics Department**
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Bergenfield, New Jersey
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June 2023

Dear Parents and Guardians:

We are excited again to present summer activities that the math teachers of Bergenfield High School have created. Enclosed are math activities designed to help your son or daughter practice the skills which they have already learned and are critical to success in Algebra I. As you may be aware, studies have shown that students who do not practice or review during the summer months the material they have already mastered lose some of that mastery. Unfortunately, this then requires the next teacher to spend valuable teaching time reviewing. While certainly not the final answer, this packet of activities is designed to help your son or daughter retain his or her math skills and knowledge.

Like you, we want your child to enjoy a wonderful summer. That is why we have designed activities so that 20 to 30 minutes of work per week should be all that is required. We urge you to encourage your child to take this task seriously and complete it successfully. Together we can make a difference in your child's future. Now is the time to build on the foundation to help your child succeed on future standardized exams such as the Algebra I NJSLA, one of their graduation requirements and even more importantly, the SAT.

Therefore, this assignment is voluntary but very strongly recommended to assist your child in meeting their Algebra I graduation requirement. Students who complete this assignment and return it on the first day of school will receive an optional quiz grade for their completed work. If a student chooses to submit the packet, it will be graded and entered as a bonus quiz grade for the first marking period. If a student chooses not to turn it in, they will not be penalized.

Thank you for your cooperation and have a wonderful and safe summer!

Sincerely,

Jim Fasano
Principal

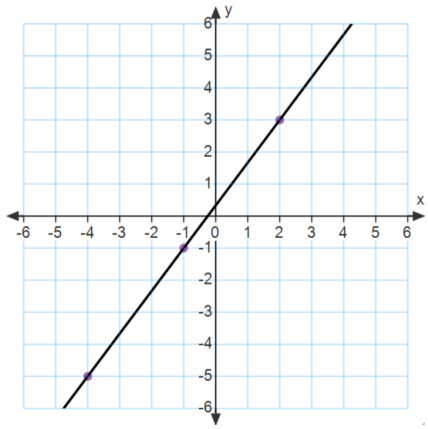
Steven Neff
Director of Mathematics

# Algebra I Summer Project

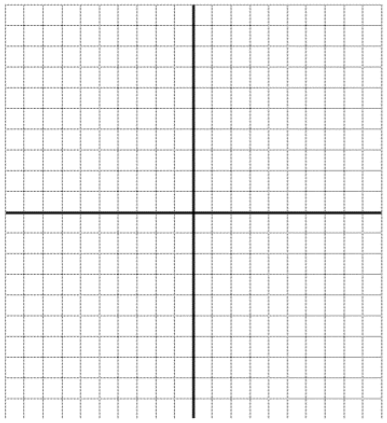
1. Find the slope of the following.

a. The line that passes through the points (9, 2) and (5, 4).

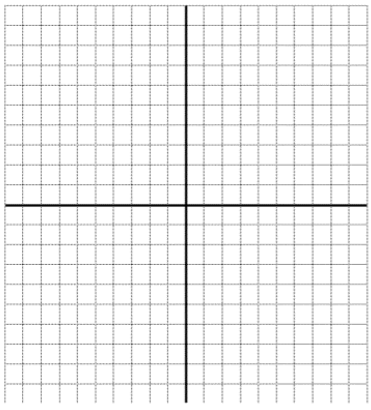
b. The line graphed below.




2. Graph the function $y + 3x = 1$. Label the axes.



3. Graph the function $y = \frac{2}{3}x + 2$. Label the axes.



4. Write an equation of a line that has a slope of -4 and a y-intercept of 3.

5. Write an equation of a line that has a slope of $\frac{3}{4}$ and passes through the point (8,2).

6. Write an equation of a line that passes through the point (3,2) and (4,9).

7. Write each equation in slope-intercept form (y = mx + b)

a. $-4x + 2y = 12$

b. $5x + 4y - 7 = 5$

8. The area *A* of a triangle is given by the formula $A = \frac{1}{2}bh$, where *b* is the base and *h* is the height. Solve the formula for the height h.

9. Solve the equation. Check your solution.

$10x + 2 = 72$

10. Solve the equation. Check your solution.

$2m - 13 = 3$

11. Solve the equation. Check your solution.

$4n - 5 = 6n + 7$

12. Solve the equation. Check your solution.

$3x + 7(x + 3) = 71$