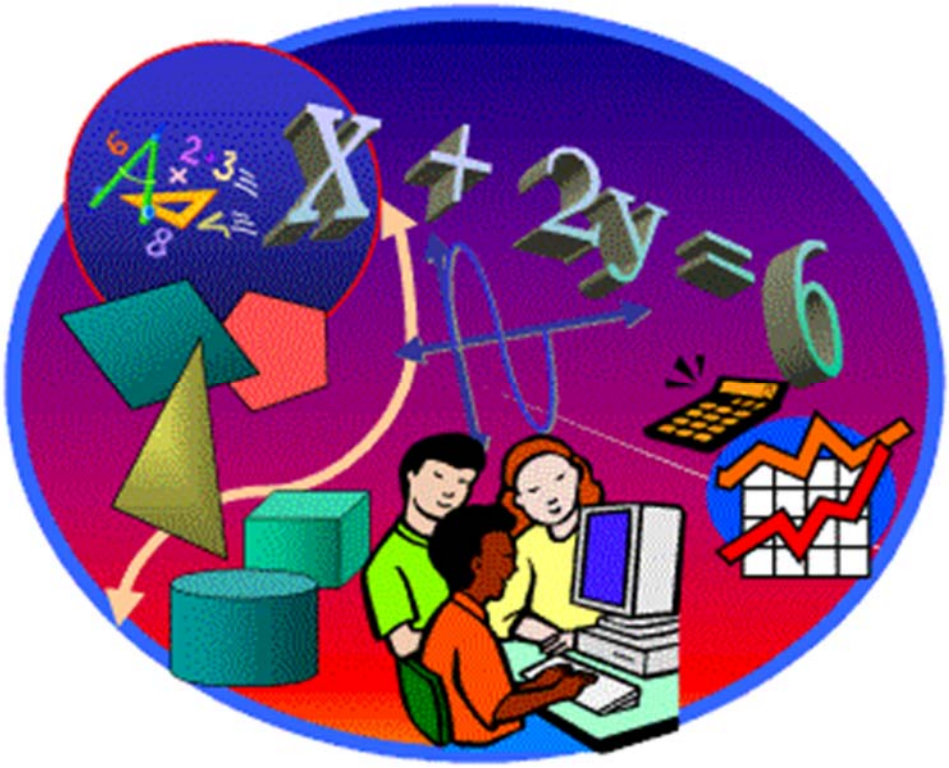
Summer Math Assignment

2019

Briggs Chaney Middle School



For Students Entering C2.0 Honors Geometry

This summer math booklet was developed to provide students an opportunity to review math objectives and to improve math performance.

BRIGGS CHANEY MIDDLE SCHOOL
1901 Rainbow Drive
Silver Spring, Maryland 20905
Phone: 301-288-8300

Dear Student and Parent,

The purpose of this packet is to provide a review of objectives that were taught the previous school year and provide tasks related to the common core curriculum. Reviewing the material will help your child retain what he/she has learned this year, and assist them as they enter the next course in the sequence of study. The packet will be a homework grade in Marking Period 1.

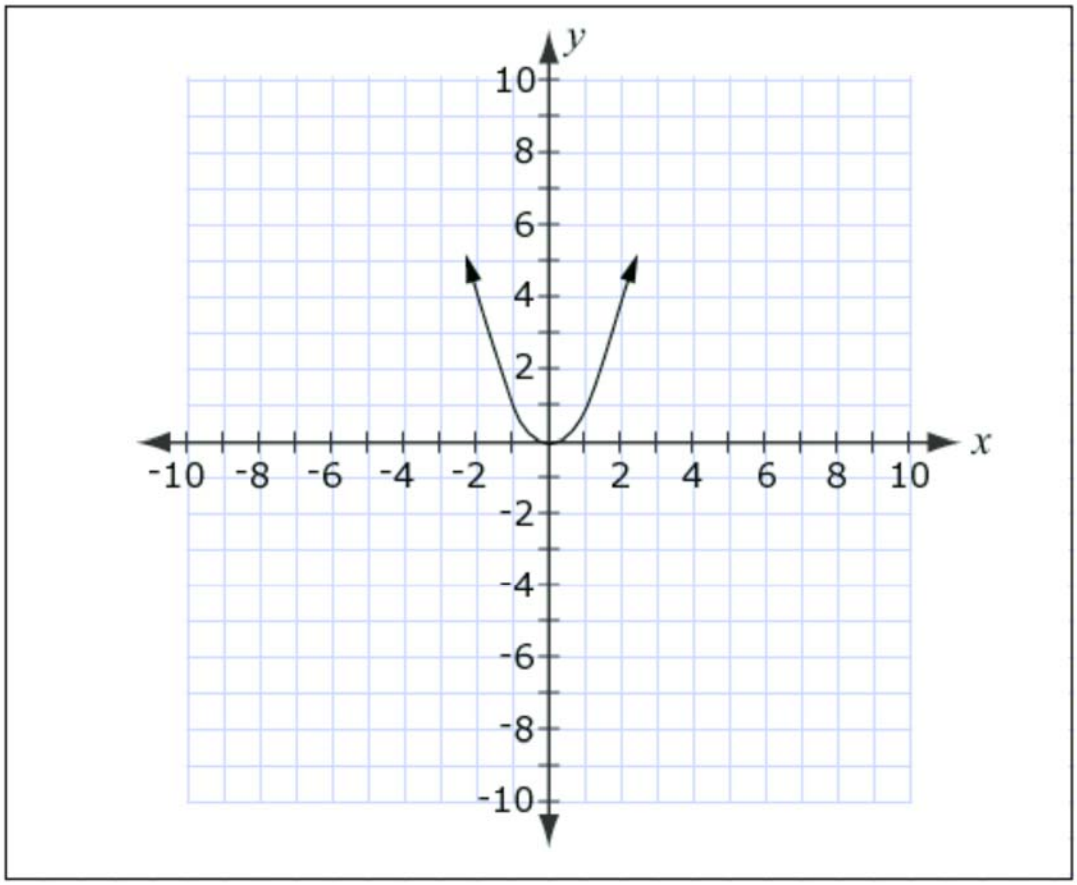
An answer key can be accessed online at our school website. This answer key can be used in one of the following ways:

- Have your child check his/her work after each assignment.
- Check your child's work after each assignment.
- Check the entire packet once it is finished.

Whichever way you choose to use the answer key, make sure your child identifies and corrects all mistakes. Please note that these are sample answers and actual student answers may vary slightly, so it is important to check your child's work. In fact, it is anticipated that some answers and all student explanations should be different from the answer key. Please remind your child that **CALCULATORS SHOULD NOT BE USED, ALL QUESTIONS MUST BE ATTEMPTED,** and **ALL WORK MUST BE SHOWN** for each activity. If work is completed on a separate paper, please submit the paper(s) with the packet; preferably stapled.

Thank you for your cooperation,
The BCMS Math Department

1. The graph of $y = x^2$ is shown on the grid. Show the graph of $y = (x - 4)^2 + 2$ on the same grid.



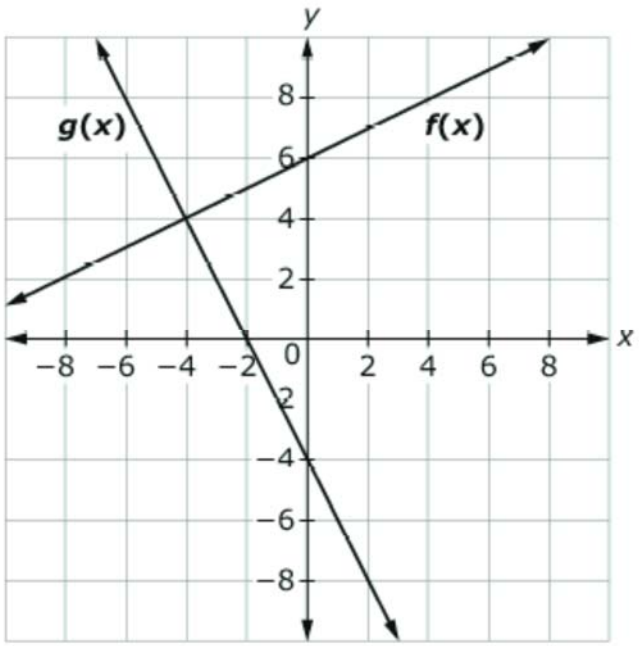
2. Multiply and combine like terms to determine the product of these polynomials.

$$(2x - 3)(5x + 6)$$

3. Solve the following equation for *n*.

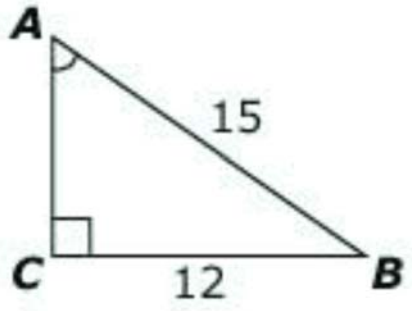
$18n^2 - 50 = 0$

4. This graph shows linear equations $y = f(x)$ and $y = g(x)$.



Find the solution to the equation $f(x) - g(x) = 0$.

5. Consider this right triangle. Find the measure of $\overline{AC}$.



6. Consider this function given in recursive form.

$f(1) = -3$

$f(n) = 3f(n - 1)$; $n \geq 1$

Select the equivalent explicit function for $n \geq 1$.

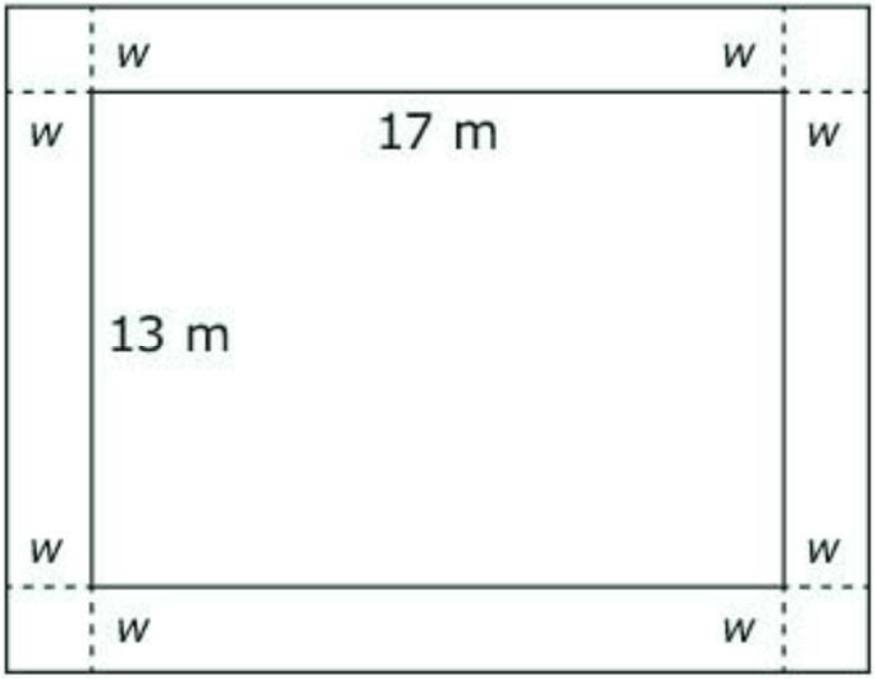
A. $f(n) = -3(n)$

B. $f(n) = -1(3)^n$

C. $f(n) = -3(n - 1)$

D. $f(n) = -1(3)^{(n-1)}$

7. A rectangular garden measures 13 meters by 17 meters and has a cement walkway around its perimeter, as shown. The width of the walkway remains constant on all four sides. The garden walkway have a combined area of 396 square meters.

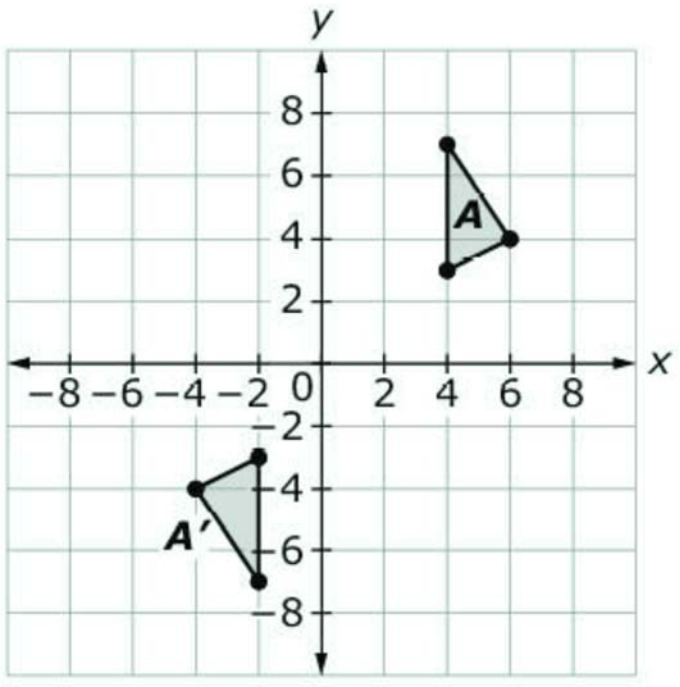


Part A:

Write an equation that could be used to help determine the width, *w*, of the walkway.

Part B: Determine the width, in meters, of the walkway.

8. José and Tina are studying geometric transformations.



José is able to move triangle *A* to triangle *A'* using the flowing sequence of basic transformations:

1. Reflection across the x-axis
2. Reflection across the y-axis
3. Translation two units to the right

Tina claims that the same three transformations, done in any order, will always produce the same result. Explain why Tina's claim is incorrect.

9. Find the slope of the line that passes through the points (-10, 7) and (9, 16). Leave your answer as a fraction.

10. Find the slope of the line that passes through the points (3, 4) and (6, 10).

11. Write the slope-intercept form of the equation of the line that passes through the points (0, 6) and (4, 30).

12. Write the slope-intercept form of the equation of the line that passes through the points (6, 2) and (3, 6).

13. Find the solution of the linear system:

$$x + y = 80$$
$$2x - 3y = 60$$

14. Find the solution of the linear system:

$$y = -2x + 4$$
$$y = 2x$$

Factoring Polynomials

Step 1: Ask yourself, "Is there something common (GCF) that can be factored out?"
- If the answer is yes, factor it out and be sure to include that factor in final answer. Then proceed to step 2.
- If the answer is no, proceed to step 2.

Step 2: Determine what form the polynomial is in.
- If it is in the form of x^2+bx+c, find factors of c that add up to b.
- If it is in the form of ax^2+bx+c, use the box method.

Step 3: Write the factors found in Step 2. Be sure to include anything that was factored out in Step 1 as part of your final answer.

Factor each polynomial.

15. $x^2 + 4x + 3$

16. $5x^2 + 25$

17. $6x^2 + 11x - 10$

18. $9x^2 + 6x - 24$

19. $x^2 - 4x - 12$

20. $-8x^2 + 50$

Solving Quadratic Equations

Step 1: Set the equation equal to 0.
Step 2: FACTOR (using the steps in the previous section)
Step 3: Set each factor equal to 0 and solve.
Step 4: Write your solutions in { }.

21. $x^2 - 10x = -9$

22. $6x^2 = 15x$

23. $2x^2 - 70 = -4x$