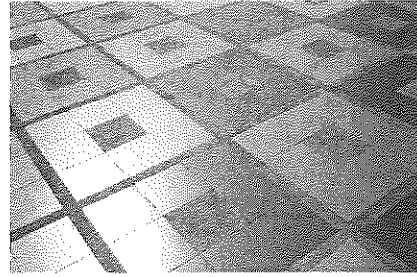


1.1 Checkerboard Borders

A Develop Understanding Task

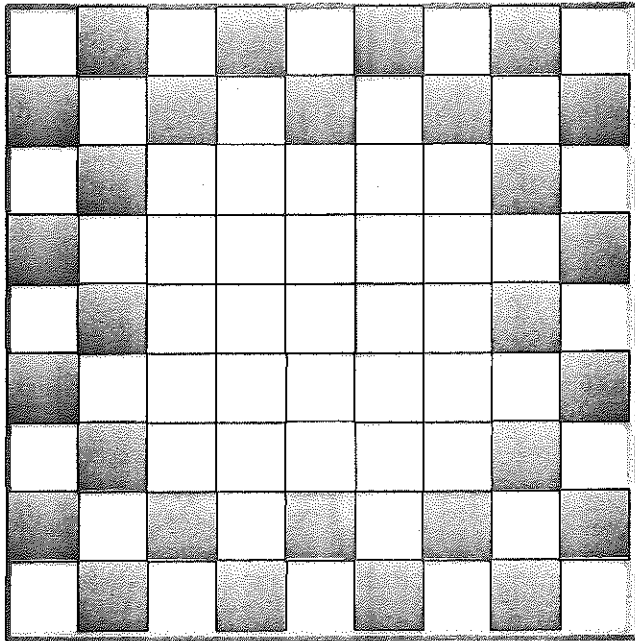


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In preparation for back to school, the school administration plans to replace the tile in the cafeteria. They would like to have a checkerboard pattern of tiles two rows wide as a surround for the tables and serving carts.

Below is an example of the boarder that the administration is thinking of using to surround a square 5×5 set of tiles.

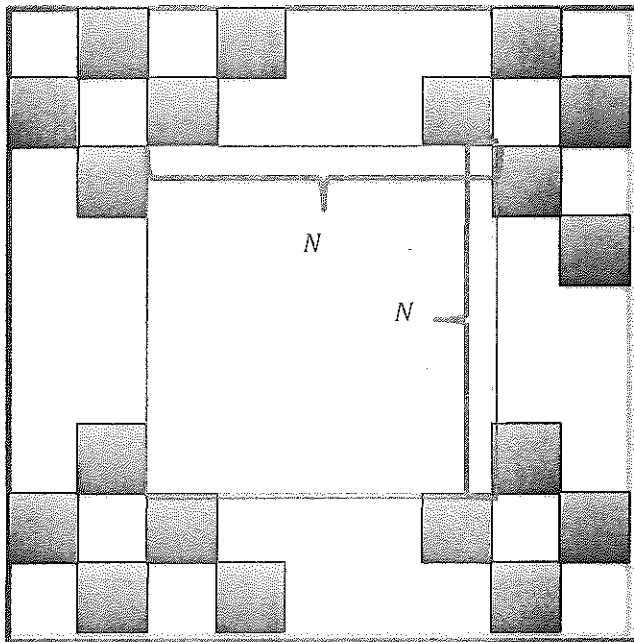
- A. Find the number of colored tiles in the checkerboard border. Track your thinking and find a way of calculating the number of colored tiles in the border that is quick and efficient. Be prepared to share your strategy and justify your work.



SECONDARY MATH I // MODULE 1
SEQUENCES - 1.1

- B. The contractor that was hired to lay the tile in the cafeteria is trying to generalize a way to calculate the number of colored tiles needed for a checkerboard border surrounding a square of tiles with any dimensions. To represent this general situation, the contractor started sketching the square below.

Find an expression for the number of colored border tiles needed for any $N \times N$ square center.



READY, SET, GO!

Name _____

Period _____

Date _____

READY**Topic: Recognizing Solutions to Equations**

The solution to an equation is the **value of the variable** that makes the equation **true**. In the equation $9a + 17 = -21$, "a" is the variable. When $a = 2$, $9a + 17 \neq -19$, because $9(2) + 17 = 35$. Thus $a = 2$ is **NOT** a solution. However, when $a = -4$, the equation is true $9(-4) + 17 = -19$. Therefore, $a = -4$ must be the solution.

Identify which of the 3 possible numbers is the solution to the equation.

1. $3x + 7 = 13$ ($x = -2$; $x = 2$; $x = 5$)

2. $8 - 2b = -2$ ($b = -3$; $b = 0$; $b = 5$)

3. $5 + 4g + 8 = 1$ ($g = -3$; $g = -1$; $g = 2$)

4. $6t - 5 + 5t = 105$ ($t = 4$; $t = 7$; $t = 10$)

Some equations have two variables. You may recall seeing an equation written like the following:
 $y = 5x + 2$. We can let x equal a number and then work the problem with this x -value to determine the associated y -value. A solution to the equation must include both the x -value and the y -value. Often the answer is written as an **ordered pair**. The x -value is **always first**. Example: (x, y) . The order matters!

Determine the y -value of each ordered pair based on the given x -value.

5. $y = 6x - 15$; $(8, \quad)$, $(-1, \quad)$, $(5, \quad)$

6. $y = -4x + 9$; $(-5, \quad)$, $(2, \quad)$, $(4, \quad)$

7. $y = 2x - 1$; $(-4, \quad)$, $(0, \quad)$, $(7, \quad)$

8. $y = -x + 9$; $(-9, \quad)$, $(1, \quad)$, $(5, \quad)$

SET

Topic: Using a constant rate of change to complete a table of values

Fill in the table. Then write a sentence explaining how you figured out the values to put in each cell.

9. You run a business making birdhouses. You spend \$600 to start your business, and it costs you \$5.00 to make each birdhouse.

# of birdhouses	1	2	3	4	5	6	7
Total cost to build							

Explanation:

10. You make a \$15 payment on your loan of \$500 at the end of each month.

# of months	1	2	3	4	5	6	7
Amount of money owed							

Explanation:

11. You deposit \$10 in a savings account at the end of each week.

# of weeks	1	2	3	4	5	6	7
Amount of money saved							

Explanation:

12. You are saving for a bike and can save \$10 per week. You have \$25 when you begin saving.

# of weeks	1	2	3	4	5	6	7
Amount of money saved							

Explanation:

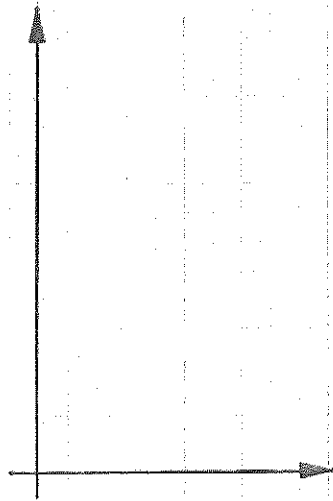
GO

Topic: Graph Linear Equations Given a Table of Values.

Graph the ordered pairs from the tables on the given graphs.

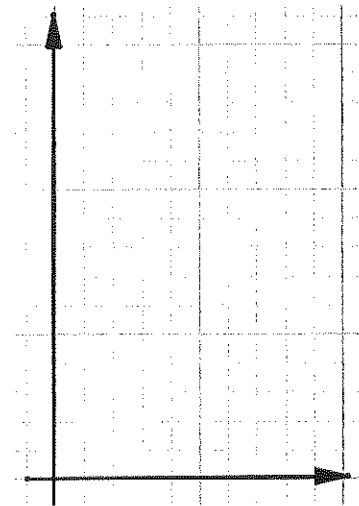
13.

x	y
0	3
2	7
3	9
5	13



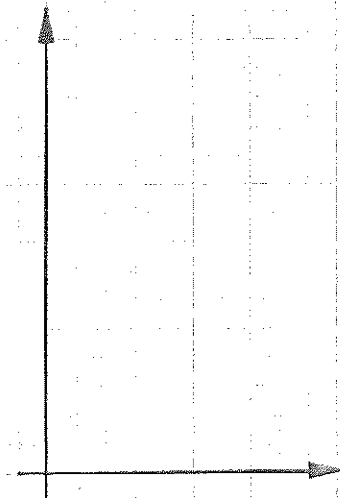
14.

x	y
0	14
4	10
7	7
9	5



15.

x	y
2	11
4	10
6	9
8	8



16.

x	y
1	4
2	7
3	10
4	13

