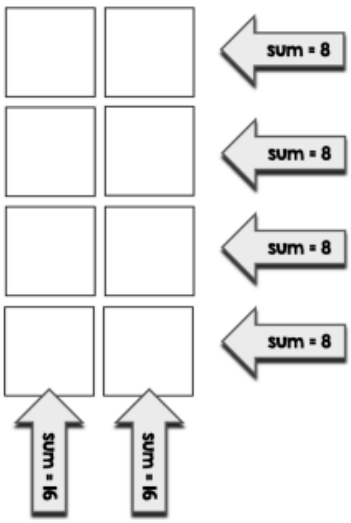
MathGlad 2>1: Autumn 2023
5. – 7. Grade

Question 1:

Organise the following numbers such that every row has the sum of 8, and every column has a sum of 16: 1, 2, 3, 4, 4, 5, 6, 7



Question 2:

Sarah is trying to find the combination to her lock. She knows the following information:

- The first number is divisible with 7.
- The second number is an odd number between 1 and 9.
- The third number is half of the first one.

Which of the following combinations could be the code to her lock?

A) 7-7-3 B) 14-9-7 C) 14-2-7 D) 20-8-10

Question 3:

You and your friend are sharing a pizza. Because your friend is hungrier than you, you want to make sure your friend gets more. When you divide the pizza, your friend takes the first slice, then you take the second, and so on until there are no more pizza slices left. How many equal parts should you divide the pizza into to maximize the amount your friend gets?

A) 3 B) 4 C) 7 D) 10

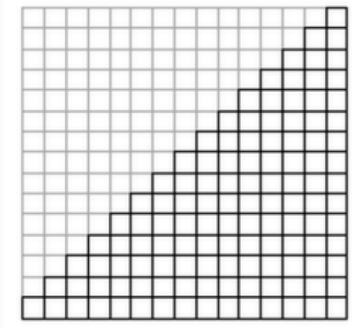
Question 4:

The numbers 1 to 10 are written on a board. Muhammad erases all the prime numbers (i.e., numbers divisible only by themselves and 1). Muhammad also removes all square numbers (numbers that can be written as an integer multiplied by itself). From the remaining numbers, he chooses the smallest one. Which number has he chosen?

A) 1 B) 6 C) 8 D) 10

Question 5:

You have the task of covering the steps below with squares. The squares can be of any size but must not overlap or extend beyond the steps. What is the minimum number of squares needed?



A) 15 B) 14 C) 16 D) 8

Question 6:

You have two cups, one with coffee and one with tea. First, you take a full spoon from the coffee cup, pour it into the teacup, and stir well. Then, you pour a full spoon of the tea mixture back into the coffee cup. Now, is there more coffee in the teacup or more tea in the coffee cup?

A) More coffee in the teacup

B) More tea in the coffee cup

C) Equal amounts in both

D) Impossible to determine