

DAYSPRING INTERNATIONAL ACADEMY
Mathletics for Lower Secondary

Read this question *carefully*. You have 7 minutes to answer write your solution on this paper as well solution on the board provided.

Group's Name: _____
Quiz Master's Name: Mr. Charles Fiende

Time Allowed: 7 minutes

1. *Challenge Problem.* Anna was planning how to seat guests at a dinner. There were between 50 and 100 people coming. Anna noticed that they could be seated with 8 people to a table and no seats left empty. She also noticed that they could be seated with 12 people to a table with no seats left empty. What is the highest possible number of guests coming?

Solution:

This is a problem of LCM. Hence the prime factors of the numbers are

$$8 = 2 \times 2 \times 2$$

$$12 = 2 \times 2 \times 3$$

$$\text{LCM} = 2 \times 2 \times 2 \times 3 = 24$$

Now if the number of guests coming is between 50 and 100, then their number will be a multiple of 24. $24 \times 4 = 96$ which is between 50 and 100.