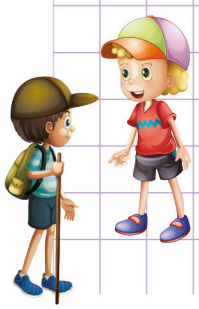
Name: ..... Class: .....

GCF and LCM word problems

- Henry and Lilian are twins. Their mum bought a carton of biscuits and kept in the house for them to always take some to school. Henry plans to always remove 9 biscuits from the carton each time he wants to eat, while Lilian plans to always remove 7. A week later, Henry and Lilian are surprised to realise that they have removed the same number of biscuits from the carton so far.

  What is the least possible number of biscuits that Lilian has removed from the carton?

- Henry has 42 red glass marbles and his friend Daniels has 28 blue glass marbles. For their game, they want to form as many groups of glass marbles as possible, with each group having the same combinations of blue and red glass marbles. Also, they want to make sure that none of the marbles is left out. What is the greatest number of groups they can get?



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Solution

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- Henry and Lilian are twins. Their mum bought a carton of biscuits and kept in the house for them to always take some to school. Henry plans to always remove 9 biscuits from the carton each time he wants to eat, while Lilian plans to always remove 7. A week later, Henry and Lilian are surprised to realise that they have removed the same number of biscuits from the carton so far.

What is the least possible number of biscuits that Lilian has removed from the carton?

1. We find the LCM of 7 and 9 to determine the least number of bicuits Lilian removed from the carton.

Multiples of 7 are : 7, 14, 21, 28, 35, 42, 49, 56, (63), 70 ...

Multiples of 9 are : 9, 18, 27, 36, 45, 54, (63), 72 ...

➸ This shows that Lilian has removed 63 biscuits from the carton.

- Henry has 42 red glass marbles and his friend Daniels has 28 blue glass marbles. For their game, they want to form as many groups of glass marbles as possible, with each group having the same combinations of blue and red glass marbles. Also, they want to make sure that none of the marbles is left out. What is the greatest number of groups they can get?

To get the greatest number of groups and also make sure that no marble is left out, we will get the greatest number that can divide 28 and 42 without a remainder.

Prime factors of 28 = (2) x 2 x (7)

Prime factors of 42 = (2) x 3 x (7)

GCF of 28 and 42 = 2 x 7 = 14

➸ Therefore, there will be 14 number of groups.

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