



Chapel Hill Math Circle

Beginners' Group

More Cryptarithms¹

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Each statement below is called a cryptarithm. Every different letter represents a unique number from 0 to 9. As usual, natural numbers are not written with a leading zero. For instance, the number twenty-seven will be written 27, and not 027. Solve each of the puzzles below and have some fun!

Problems

1. $AB - BA = A$
2. $A + BB = ADD$
3. $BC + B = DAD$
4. $BC + DC = CAB$
5. $HEN + E = EGG$
6. $DAD + DAD + DAD + DAD + DAD = GLAD$

Challenge Problems

7. What is the product of the following single-digit numbers?
 $C \times H \times A \times P \times E \times L \times H \times I \times L \times L \times M \times A \times T \times H \times C \times I \times R \times C \times L \times E$
8. A prime number is a number with exactly two factors.
What is $PR + I = ME$ if PR, I, and ME are prime numbers?²

¹ Based on Camp Logic, by Mark Saul and Sian Zelbo.

² This problem was created by Hector Rosario.