

Encrypted Arithmetic II¹

1. Replace all the asterisks with digits from 0 to 9 in such a way as to get the correct equality:

a. $1* \times *1 = 1*1$

b. $***7 - *** = 8$

2. Mother Bear caught 18 trout for Little Bear's birthday party. How many kids were there at the party if everybody, Little Bear included, ate the same integer number of trout? List all options.

3.

4.

5.

6. Look at the following encrypted puzzle: $COW + COW + \dots + COW = HERD$. What is the maximum possible number of "COWs" in the "HERD?" Provide an example and explain why a larger number is not possible.

7. Decrypt $SEND + MORE = MONEY$.

¹ These sessions taken from *Mathematical Circle Diaries, Year I*, Sessions 19 and 20.