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Captain Michael Gitt Papers - War Department, TM 1-900, Technical Manual, Mathematics for Air Crew Trainees, 2/26/1943

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Example: Find the sum of 30.53, 6.475, 0.00035, and 3476.
Solution:

$$\begin{array}{r} 1111 \\ 30.53 \\ 6.475 \\ .00035 \\ 3476. \\ \hline 3513.00535 \end{array} \quad \begin{array}{l} \text{Carry-} \\ \text{Over} \end{array} \quad \text{Answer}$$

FIGURE 1.

b. Units. - Almost all the numbers which arise in practical arithmetic have to do with definite quantities such as 78 feet, 239 miles, 25 degrees, 160 miles per hour, 210 pounds, and so on. In these examples, the words in italics, which state which the quantities are in each case, are called the units. When adding several quantities together, it is clear that the units must all be the same. For example, "the sum of 78 feet and 160 miles per hour" is a completely meaningless statement.

1) Units are so important and occur so often that standard abbreviations have been adopted for them. A list of the correct abbreviations and the relations which exist between some of the units are given in the appendix.

2) Example: Find the sum of 78 feet and 3 miles.

Solution: In this case, since 1 mile is the same as 5,280 feet (see appendix), then 3 miles are the same as 15,840 feet. Therefore, 78 feet and 15,840 feet may be added together to give 15,918 feet. But the student is cautioned that unless there is a relation between the various units so that all the quantities may be expressed in terms of the same units, the addition cannot be performed.

c. Symbols. - In arithmetic and in other branches of mathematics, much space and effort are saved by using symbols. Thus in order to write "find the sum of 70.765 and 301.4," the plus sign (+) is used and this phrase can be written simply as "70.765 + 301.4 = ?." When more than two numbers are to be added, the plus sign is repeated, for example: 70.765 + 301.4 + 765.84 = 1,138.005.

d. Exercises.

- (1) 30.53 in. + 6.475 in. = ?
- (2) 648.03 cm + 37.895 cm + 219.921 cm + .08376 cm = 905.92976 cm. Answer.
- (3) 100.001 + 9.098 + 5678.91 = ?
- (4) 897.1 + 0.989 + 900.76 + 91901.359 = 93700.208 Answer.

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