By Proportion.

$1\frac{3}{4}$ bushels last 2 weeks.

$5\frac{1}{2}$ bushels last $\frac{5\frac{1}{2}}{1\frac{3}{4}}$ of 2 weeks.

Mental Operation.

(1) The answer is to be weeks.

(2) The answer will be more than 2 weeks; therefore, the fraction representing the proportion will be improper.

2. If a field of 16 acres produces 440 bushels of wheat, how much will be grown on 22 sq. yds.?

By Analysis.

16 acres = (16 × 4840) sq. yds.

(16 × 4840) sq. yds. produce 440 bushels.

1 sq. yd. produces $\frac{440}{16 \times 4840}$ bushels.

22 sq. yds. produce $\frac{440 \times 22}{16 \times 4840}$ bushels.

By Proportion.

16 acres produce 440 bushels.

22 sq. yards produce $\frac{22 \text{ sq. yds.}}{16 \text{ acres}}$ of 440 bushels.

Mental Operation.

(1) The answer is to be bushels.

(2) The answer will be less than 440 bushels; therefore, the fraction will be proper.

NOTE 1.—Before comparing 22 sq. yds. and 16 acres we must reduce them to the same denomination.

NOTE 2.—We do not multiply 440 bushels by 22 sq. yds. and divide by 16 acres. This has no meaning. We find the proportion which these two quantities bear to one another, and multiply 440 bushels by the fraction which represents that proportion.

VIII. Metric System.—This system was introduced in France about a century ago. The fundamental unit, the metre, is supposed to measure exactly the ten-millionth part of the distance between the Equator and the North Pole. Standard metres have been made with the utmost precision and are deposited in nearly all the civilised countries of the world. They are made of platinum, which is a very durable metal, not easily affected by exposure to the air, and are carefully preserved. From the standard metre all other weights and measures are derived.