GRADED ARITHMETIC.

XII. C. Written examples will generally be worked best by decimals, e.g., $22\frac{1}{2}$ % of 865 acres = 194.625 acres. 225 of 865 acres = 194.625 acres.

The rule $Percentage = Base \times Rate$ is thus easily derived.

XII. D. The **amount** is found by adding the percentage to the base. (See examples 8, 16, etc.)

The difference is found by subtracting the percentage from the base. (See examples 6, 7, 15, etc.)

XIII. A and B. Derived Case.—To find the rate when the percentage and base are given. This case is the same as to find what fraction one number is of another. Compare.

6 is what fraction of 9? 6 is what decimal of 9? 6 is what per cent. of 9?

Pupils must first find the common fractional part and reduce this fraction to a decimal of two places, *i.e.*, to hundredths or per cent. Care must be taken to lead pupils to recognise the base, or the number of which another number forms a part. (For method and hints see this Manual III., A., p. 2.)

XIII. C. The rule $Rate = Percentage \div Base may now be derived, e.g.,$

If the rent of a house is reduced from \$375 to \$350, how much is the reduction per cent. ?

The reduction is \$25 on \$375, or $\frac{25}{375}$. Base = \$375. $\frac{25}{375} = \frac{1}{15} = \cdot 06\frac{2}{5} = 6\frac{2}{5}$. Percentage = \$25.

XIV. Derived Case.—To find the base when the percentage and rate are given. This case is the same as to find the number of which another number is a given fraction, or given a part, to find the whole. (See Manual, Book II., p. 19.)

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