PRACTICAL ARITHMETIC FOR SENIOR CLASSES

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Practical Arithmetic for Senior Classes by Henry G. C. Smith

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HENRY G. C. SMITH

PRACTICAL ARITHMETIC FOR SENIOR CLASSES

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PRACTICAL ARITHMETIC

FOR

SENIOR CLASSES.

BY

HENRY G. C. SMITH,

TEACHER OF ARITHMETIC AND MATHEMATICS,
GEORGE HERIOT'S HOSPITAL.

Eleventh Edition, Improved.

EDINBURGH:
OLIVER AND BOYD, TWEEDDALE COURT.
LONDON: SIMPKIN, MARSHALL, AND CO.
1884.

Answers to this Book may be had, price 6d.

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PRACTICAL ARITHMETIC FOR JUNIOR CLASSES.

BY HENRY G. C. SMITH.

Price 6d.—Answers to Ditto, 6d.

EDINBURGH:
PRINTED BY OLIVER AND BOYD,
TWEEDDALE COURT.

THIS Manual, which is a Sequel to *Practical Arithmetic for Junior Classes*, is intended for the use of those who have mastered the Fundamental Rules in Simple and Compound Numbers.

Considerable space, in accordance with the importance of the subject, has been devoted to the explanation of Fractions.

The Metric System of Weights and Measures is treated in a manner befitting its general use for scientific purposes.

The Exercises, which are copious and original, have been constructed to combine interest with utility. They are arranged in distinct Sections, and are accompanied with Illustrative Processes.

In view of practical instruction, the explanatory remarks throughout the work are more of a concrete than an abstract character.

*** *The Answers to the Exercises are published separately.*

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ARITHMETICAL TABLES.

I. MONEY.

MONEY OF ACCOUNT.

4 farthings	= 1 penny	*d.*
12 d.	= 1 shilling	*s.*
20 s.	= 1 pound	£.

d. for *denarius*: *s.* for *solidus*: £ for *libra*.

DECIMAL DIVISION OF £1.

10 mils, *m.*	= 1 cent	*c.*
10 c.	= 1 florin	*fl.*
10 fl.	= 1 pound	£.

COINS IN CIRCULATION.

GOLD. *Sovereign*, £1; *Half-sov.* 10s. 1869 sovereigns are coined out of 40 lb. troy of sterling gold.

SILVER. *Crown*, 5s.; *Hf.-cr.* 2s. 6d.; *Florin*, 2s.; *Shilling*, 1s.; *Sixpence*, 6d.; *Groat*, 4d.; *Threepence*, 3d. 66 shillings are coined out of 1 lb. troy of sterling silver.

BRONZE. *Penny*, 1d.; *Halfpenny*, ½d.; *Farthing*, ¼d. In 100 parts of the bronze metal for these coins, there are:—95, copper; 4, tin; and 1, zinc. To 1 lb. avoir. there are:—Of pennies, 48; of halfpennies, 80; of farthings, 160.

OBSOLETE COINS.

Testor, 6d.; Dollar, 4/6; Noble, 6/8; Seven Shilling piece; Angel, 10/; Half-guinea, 10/6; Mark, 13/4; Pistole, 16/; Guinea, 21/; Carolus, 23/; Jacobus, 25/; Moidore, 27/; Joannes, 36/.

The denominations of *Scots Money* are *one-twelfth* of the value of the corresponding names in sterling: thus,

£1	Scots	=	20d. sterling.
1s.	"	=	1d. "
Also, 1 merk	"	=	13⅓d. "

II. WEIGHT.

The Act, 5° Geo. IV. cap. 74, for establishing UNIFORMITY OF WEIGHTS AND MEASURES, came into operation on 1st Jan. 1826. By the Weights and Measures Act 1878 (41° and 42° Vic. cap. 49), the Imperial Standard of Weight continues to be the POUND AVOIRDUPOIS, now in the Standards Department of the Board of Trade; and of which, copies are placed in the Mint, the Royal Society of London, Greenwich Observatory, and the Palace at Westminster.

AVOIRDUPOIS WEIGHT.

Avoir. Wt. is the general weight of commerce. 1 lb. avoir. = 7000 grains.

16 drams, *dr.*	= 1 ounce	*oz.*
16 oz.	= 1 pound	*lb.*
28 lb.	= 1 quarter	*qr.*
4 qr. or 112 lb.	= 1 hundredwt.	*cwt.*
20 cwt.	= 1 ton	*T.*
	Also,	
14 lb.	= 1 stone	
100 lb.	= 1 cental	

TROY WEIGHT.

Troy Wt. is used in weighing the precious metals.

24 grains, *gr.*	= 1 pennywt.	*dwt.*
20 dwt.	= 1 ounce	*oz.*
12 oz. or 5760 gr.	= 1 pound	*lb.*

At the Mint, the OUNCE TROY is divided into 1000ths.

The fineness of gold is estimated in *carats*. Pure gold is said to be 24 carats fine. *Sterling* gold, of which every 24 parts contain 2 of alloy, is 22 carats fine.