

4. Division (short and long) by numbers up to 12, and short division by numbers (up to 144) which can be broken up into two factors.

5. Ready methods of multiplication by 5, 9, 10, 11, and 12; and of division by 5 and 10.

Class Mental Work for Standard II.—Components and factors of numbers as in Standard I., somewhat higher, but not exceeding 1,000. Relative values of shilling, florin, half-crown, and sovereign. Pence and shillings tables. Four rules applied to easy money calculations—*e.g.*, $6\frac{1}{2}d. + 2\frac{1}{2}d. + 3d.$; $1s. - 7\frac{1}{2}d.$; $5 @ 1s. 6d.$; 4 cost 2s., how much for 1? Work at sight from blackboard easy sums in four rules—*e.g.*, $40 + 20 + 18 + 19$; $200 - 85$; 145×4 ; $620 \div 5$.

Standard III.

1. Write millions.

2. Long division.

3. Addition and subtraction of £ s. d.; tons, cwt., qr., lb., oz.; miles, chains, yd., ft., in.; years, days, hr., min., sec.; gallons, qt., pt.; and acres, rd., po. (two or occasionally three terms or parts only of one weight or measure being dealt with in one operation).

4. Multiplication and division of money, and of two or at most three terms or parts in weights and measures by one digit and by easy factors.

5. Reduction of two or three such quantities to one denomination, and the reverse process.

Class Mental Work for Standard III.—More advanced money calculations than in Standard II. Days in each month. Easy reduction exercises (two stages) and fractional parts (not usually less than one-tenth) on tables given.

Standard IV.

1. General principle of extended numeration.

2. Long tots.

3. Easy problems in money rules, including simple calculations in weights and measures given in Standard III.

4. L.C.M. and G.C.M. (factors).

5. Four rules of decimals and simple common (vulgar) fractions.

6. Conversion of common fractions into decimals and of decimals into common fractions.

Class Mental Work for Standard IV.—Calculation of dozens at price for one given in pence, and of scores at price for one in shillings. Fractional parts of £1 and exercises thereon. Calculations by ready methods of easy items as for invoices—*e.g.*, $30 @ 1s. 11d. = 30 @ 2s. \text{ less } 30 \text{ pence}$; $59 \text{ at } 7d. = 5 \text{ doz. } @ 7d. \text{ less } 7d.$; $25 @ 5d. = 5 \text{ at } 2s. 1d.$; $16 @ 5s. 6d. = 16 \text{ at } 5s. + 16 \text{ sixpences}$.

Standard V.

1. Find at sight value of a decimal of £1 (metric system).

2. Conversion of £ s. d. to a decimal of £1 (three places).

3. Expression of weights and measures given in Standard III.; and of oz., dwt., gr., scr., drams; square and cubic yd., ft., in. (not more than three terms or parts being taken in one measure) as a decimal of one of these.

4. Application of decimals thus found to ordinary work, including multiplication and division of money, and weights and measures, and also the calculation of simple interest.

5. Application of fractions to proportion (three terms only being given).

6. Application of common fractions to practice when advantageous.

Class Mental Work for Standard V.—Advanced tables—*e.g.*, lbs. in ton; square yards in acre; acres in square mile; grains in lb. Troy and Avoir.; lbs. in ton of flour, N.Z. Calculation of items as for invoices, including easy common fractions. Simple interest on a given number of £ at 1, $2\frac{1}{2}$, 5, $7\frac{1}{2}$, and 10 per cent. for years, and easy fractions of years. Easy exercises in four rules of decimals and common fractions.

Standard VI.

1. Methods of extending decimals to more than three places.

2. Short methods of multiplying and dividing to three places of decimals only.

3. Extended knowledge of metric system, including metre, litre, and gramme.

4. Compound interest by the method of finding the interest on £1.

5. Simplification of complex fractions—decimal and common.

6. Compound proportion, using either fractional or ratio statement.

7. Areas of rectangle, triangle, and circle. Comparison of similar areas.

8. Contents of simple solids with plane surfaces, including timber measure. Comparison of similar solid contents.

9. Square root, cube root (model worked example given).

10. The working of ordinary business transactions in averages, exchanges, shares, and stocks.

Class Mental Work for Standard VI.—Rapid conversion of money to a decimal of £1 (metric system). Ordinary cases of application of decimals and common fractions to easy problems, including proportion, averages, percentages, exchanges, timber measurements, superficial and cubic areas. Given the weight of a cubic foot of water 1,000oz., of a gallon of water 10lb., and of a cubic foot of air 1.3oz., to find the weight and contents in gallons or cubic feet of any substances whose simple dimensions and specific gravity are known.

SPECIMEN TEST QUESTIONS (Two Sets).

Standard I.

1. Add together five dozen, one hundred and eighty, nine hundred and twelve, 609 and 889.

2. 628×6 .

3. $68 + 105 + 993 + 19 + 760$.

4. Eight times nine hundred and seventeen.

5. In 4 rows of trees, 25 in a row, how many trees altogether?