

## CLASS D.—EXERCISE IN DICTATION AND SPELLING.

(Part of paper on English Grammar and Composition.)

10. Spelling exercise:—Blissful, embarrassment, intral, appal, truism, swingeing, eyrie, vying, trueness, truly, enterprise, withal, saveall, sympathize, windfall, alkalies, similes.

11. Dictation exercise:—"To be strong-backed and neat-bound is the desideratum of a volume. Magnificence comes after. This, when it can be afforded, is not to be lavished upon all kinds of books indiscriminately. I would not dress a set of Magazines, for instance, in full suit. The dishabille, or half-binding (with russia-backs ever), is *our* costume. A Shakspeare or a Milton (unless first editions), it were mere foppery to trick out in gay apparel. The possession of them confers no distinction. The exterior of them (the things themselves being so common), strange to say, raises no sweet emotions, no tickling sense of property in the owner. Thomson's Seasons, again, looks best (I maintain it) a little torn and dog's-eared. How beautiful to a genuine lover of reading are the sullied leaves and worn-out appearance, nay, the very odour (beyond russia), if we would not forget kind feelings in fastidiousness, of an old "Circulating Library" Tom Jones, or Vicar of Wakefield! How they speak of the thousand thumbs that have turned over their pages with delight!—of the lone sempstress whom they may have cheered (milliner, or harder-working mantua-maker) after her long day's needle-toil, running far into midnight, when she has snatched an hour, ill spared from sleep, to steep her cares, as in some Lethæan cup, in spelling out their enchanting contents! Who would have them a whit less soiled? What better condition could we desire to see them in?"—*Charles Lamb*.

## CLASS D.—ARITHMETIC.

*Time allowed: Three hours.*

1. Multiply five thousand and forty-eight million nine thousand seven hundred and six by nine million six hundred and three thousand and eight, and write down the answer in words. Verify the result by the method of casting out nines.

2. The length of the military quick-step is 30 inches, and 108 steps go to the minute: at what rate is that per hour?

3. Divide 327 acres 2 roods 31 poles 16 yards by  $17\frac{2}{3}$ .

4. Find, by Practice, the value of 18 tons 4 cwt. 1 qr. 12 lb. at £3 11s. 8d. per cwt.

5. Define a *fraction*, a *proper* fraction, a *compound* fraction, and a *complex* fraction. If the same number be added to the numerator and denominator of a proper fraction, will its value be increased or diminished? Explain why.

6. Simplify  $\frac{2\frac{1}{2} \text{ of } 3\frac{1}{2} \text{ of } 4\frac{1}{4} - 1}{5\frac{3}{5} \text{ of } 6\frac{1}{2} - 1}$ , and  $\frac{\frac{5}{6} - \frac{3}{4}}{1\frac{1}{2} - 1\frac{1}{8}} \div \frac{1\frac{3}{4} + 5\frac{5}{8}}{2\frac{3}{4} + 4\frac{1}{8}}$ .

7. Find the difference between the product of 1.06 into 2.27, and the quotient of 6.35 by 4.618.

8. Find the value of  $\frac{2}{3}$  of a guinea + .4375 of £1 4s. — .036 of £13 10s.; and reduce 10 days 18 hours 36 seconds to the decimal of 1 week 7 hours 30 minutes.

9. Extract the square root of  $6\frac{2}{3}$  to five places of decimals.

10. The height of a room is 14 feet 7 inches, and its content is 9,803 cubic feet 416 cubic inches, and it is known to be twice as long as it is broad: what is its length?

11. If 8 men working 8 hours a day, or 12 boys working 6 hours a day, can do a piece of work in 21 days, how long would 16 men and 30 boys take to do a piece of work twice as large as before, all working 7 hours a day?

12. Three miners own a claim, A having one-third, B one-fourth, and C the remainder. A, however, abandons the ground, and his share is divided between his partners in the proportion of their interests. What are now the shares respectively of B and C?

13. Define *discount*, and explain the difference between *true* and *mercantile* discount. Find the true discount on £33 16s., due eight months hence, at 6 per cent. per annum.

14. A tradesman sells an article for £12, thereby losing 4 per cent., and recovers his loss by selling another article for £8: what is his gain per cent. on the second article?

15. If I invest £5,747 in the New Zealand 5 per cents. at  $102\frac{1}{2}$ , and sell out at  $103\frac{1}{4}$ , after having received a half-year's dividend, what sum shall I have gained, the brokerage both on the purchase and sale of the stock being  $\frac{1}{8}$  per cent.?

## CLASS D.—GEOGRAPHY.

*Time allowed: Three hours.*

1. What is meant by a great circle of a sphere? What is meant by great-circle-sailing? Show that if the captain of a ship wants to reach a port due east of that from which he starts, his shortest course will not in general lie in the direction of due east.

2. Explain carefully what becomes of the snow which is deposited in such abundance on the tops of high mountains.

3. What are the trade-winds? In what parts of the earth do they blow, and how are they caused?

4. Describe the mountain system of Great Britain.

5. Draw a map of Europe; insert the mountains and rivers, and the names of the capes and bays, &c., on its coast.

6. What are the principal British possessions in Asia or near its coast?

7. Describe the position of the following towns in Europe, and mention anything for which any of them are remarkable: Cologne, Antwerp, Archangel, Granada, Orleans, Trieste, Mayence, Belfast, Lucerne, Venice.

8. Enumerate the various countries in Asia, and give the chief towns of each.

9. Draw an outline-map of Australia and New Zealand, showing their relative positions, and (approximately) their relative sizes.