

paying the above, the butcher allowing a discount of 10*d.* in the £?

7. A creditor receives on a debt of £592 a dividend of 12*s.* 4*d.* in the pound, and afterwards another dividend of 3*s.* 9*d.* in the pound on the remainder of the debt. What does his loss amount to?

Work the sum by practice and by the rule of three.

8. If a farmer pays a rent of £100 19*s.* 10½*d.* for a farm of 53 acres 2 roods 20 poles, and his landlord remits one quarter of the rent, what does the farmer then pay per acre?

What is meant by the "rule of three direct," and the "rule of three inverse"?

9. Work the following sum by the rule of three and by "first principles" (*the method of unity*), and show why it is of advantage to be acquainted with both methods:—

If the carriage of 10 cwt. 14 lbs. for 79¼ miles cost £7 17*s.* 6*d.*, what will it cost to have 1 ton 1 cwt. 1 qr. conveyed the same distance?

10. A merchant receives a consignment of three-quarters of a ton of coffee, and a ton and a half of sugar;—the cost price of the former, together with freightage, being 7¾*d.* per lb., and of the latter 9¼*d.* per lb. What is the total amount gained or lost if the coffee and sugar are both sold at 9*d.* per lb.?

Is this a sum in simple proportion? Give reasons for your answer.

11. If 20 horses and 196 sheep can be kept for nine days for £7 15*s.*, what sum will keep 15 horses and 72 sheep for 8 days, supposing 5 horses eat as much as 76 sheep?

State and explain the rule for working sums in compound proportion.

12. Arrange in order of magnitude the fractions $\frac{1}{4}$, $\frac{1}{11}$, $\frac{1}{13}$; and express the difference of the first two as a fraction of the difference of the last two.

Give, and explain as you would to your class, the rule for the subtraction of vulgar fractions.

13. A woman after spending $\frac{2}{3}$ of her money, shopping, finds that $\frac{1}{4}$ of what she has still remaining is 1*s.* 9*d.* How much money had she to start with?

Show that if the numerator and the denominator of a fraction be both multiplied by the same number, the value of the fraction remains the same.

14. Add 275 of a bushel to 725 of a quarter, and find the value of the whole at 13*s.* 4*d.* per bushel.

Define a decimal fraction; contrast it with a vulgar fraction; and show how the latter can be converted into the former. Can all vulgar fractions be so converted, and, if not, why?

15. If 2 of an acre of building land fetch 156 of £198, what ought 285714 of 7 acres to fetch, at the same rate?

Give the proper name to each of the decimal fractions in the last question.

16. Give the rule for ascertaining *percentage*, making use of the following question as your illustration of it:—If the gold of which a cup is made contains 10 per cent. of alloy, what will be the quantity of pure metal in the cup, supposing it to weigh 1 lb. 7 oz. 13 dwt. 13 grs.?

17. What is meant by "stock"? If 3½ per cent. stock is purchasable at 87½, what annual income can I secure by investing £4,380 16*s.* 8*d.* in it, after paying ½ per cent. on the purchase money for brokerage?

— — — DICTATION.

(For the Examiner.)

The passages A, B, are to be given alternately if the number of Candidates is large and there is danger of copying. If one is enough, give the first (A).

The passage should be read *once* distinctly, and then dictated *once* in portions as marked.

If the room is large, and there is danger of your not being heard at its extremity, you may permit one of the officers to stand half-way down the room, and repeat the words after you, exactly as you give them out.

It is essential that there be no complaint on the part of the Candidates that they could not hear or understand: you can only prevent this by clearness, accuracy, and audibility.