

The following extract from a report of his address shows the intelligence and sympathy which he throws into the great work he is carrying out :—

"After dealing with the danger of overwork to the female pupil teachers in schools, he spoke of his efforts to protect them by the introduction of the twenty-five hours per week rule. He next spoke of the advantages those enjoyed whose circumstances enable them to obtain the two years' training given in such colleges as this. There are now about 60,000 young teachers growing up in the country, and to provide training colleges for all would be to incur an enormous expense; while to insist upon all going through this course of training would be to place a serious hindrance on the learning power of many whose parents were not in a position to bear the charge of providing for their support. Addressing the young teachers before him, and those more particularly about to enter upon life as schoolmistresses, he warned them against the danger of unduly stinting their diet and of overworking themselves, insisting upon the importance of health as an element of success in teaching, while at the same time he begged them to continue their studies after leaving college, because, as Professor Huxley had recently said at Liverpool, those who were to impart elementary information must themselves be saturated with and soaked in knowledge of the subject they had to teach. He would, too, beg them to be thrifty. There were some 20,000 or 30,000 women engaged in teaching in the public schools in France, and she must be a woman of high attainments among them who could earn the salary of £80 a year, with which the young teachers leaving this college would, as they had just heard, begin life. He understood that the French schoolmistresses were as civil servants entitled to pensions, and that to meet the charge of the pension a deduction of 5 per cent. was made from their salaries. He would strongly recommend his young hearers to make it an inviolable rule to lay by against a rainy day something more than 5 per cent. of their earnings. Commenting on provisions of the Code, he reminded them that they were not, as in France, the slaves of any minister, nor were they compelled to take up in their schools every subject prescribed in the Code. On the contrary, great freedom was allowed them, and the Minister of Education in this country was advised by a number of considerate and sympathetic men who knew the work both teachers and pupils could do, and who would take care that too much was not required from them. If the Department should err in any direction, they were not too proud to retrace their steps. They had the courage to take the line they believed most in the interest of education and of the children. The schools, it must not be forgotten, were not made for the teachers; on the contrary, teachers, inspectors, and Ministers of Education were appointed for the benefit of the scholars, and the first consideration must be the good of the children. But, having done the best that could be done for the children, the Committee of Council on Education would do the best they could adequately to reward and to show due consideration for the teachers. He believed the public of this country was never before so disposed to promote education. Every year he had to make increased demands upon the Treasury on this account, and the money thus expended was the best spent money the Government laid out. With respect to the duties they were about to undertake, he wished to remark that there was scarcely a Board school in this country in which they would not be required to give religious instruction. They might exercise a potent influence with regard to one of the greatest social problems of the day. The outcasts, not only of London, but of Great Britain, would come under their direct control, and it would depend very much upon the influence exercised by the teachers of the country whether we should have outcasts in the next generation or not. Without setting up educational culture as a specific

for all the evils of life, he agreed with a great thinker who had written on the subject that the first great attempt to reach the profound misery of our great cities, and especially of London, was to get all the children into schools. It was the first attempt to bring civilisation to the outcasts, and to place them in contact with Christian men and women."

Mr. Mundella's speech was listened to with great interest by a large assemblage of visitors, and many of the points were received by the students with the greatest enthusiasm."

Mathematical Department.

SCIENCE AND ART DEPARTMENT, ENGLAND.

Examiners.—REV. J. F. TWISDEN, M.A., AND A. R. WILLIS, Esq., M.A., B.Sc

FIRST STAGE.

(Three Hours are allowed for this Paper.)

SECTION A.—ARITHMETIC.

1. What is a decimal fraction? What is a recurring decimal? Express $\frac{1}{9}$ as a recurring decimal, and 0.0173535... as a vulgar fraction.
2. Show that the square root of 0.37 exceeds the cube root of 0.217 by a difference which very nearly equals $\frac{1}{18}$.
3. A publisher sells books to a retail dealer at 6s. a copy, but allows 25 copies to count as 24; if the retailer sells each of the 25 copies for 6s. 9d., what profit per cent. does he make?
4. In building a wall, 22,500 bricks are used at £1 12s. a thousand, 135 bushels of lime at 1s. 4½d. a bushel, 16½ loads of sand at 3s. 6d. a load; the labor is reckoned at 9s. 6d. per thousand bricks laid; and 300 coping stones are used at 1s. 7½d. apiece, including cost of laying. Make out the above in the form of a bill, and find the amount after deducting 7½ per cent. for prompt payment.
5. The capital of a trading company consists of 4,000 A shares of £80 each and 1,000 B shares of £25 each; in dividing the profits 5 per cent. of the amount of each share is first paid, and then the remainder, if any, is divided equally amongst the shareholders. The profits of the undertaking in one year were £34,853 12s. 6½d.; how much would be paid to the holder of an A share, and how much to the holder of a B share?
6. An imperial gallon is 277.274 cubic inches; a Winchester bushel 2150.42 cubic inches. How many Winchester bushels are equal to 100 imperial bushels?

SECTION B.—GEOMETRY.

7. Draw a straight line perpendicular to a given straight line of an unlimited length, from a given point without it.
Let AB be drawn at right angles to CD and meet it in B, join AC, CD; if BC is greater than BD, show that AC is greater than AD.
8. In any triangle (ABC) show that, if the angle A is greater than the angle B, the side BC will be greater than the side CA.
Let ABC be an equilateral triangle, and let a point Q be taken in BC produced (in the direction B to C); show that Q is nearer to A than it is to B.
9. If a straight line falling on two other straight lines makes the interior angles on the same side together equal to two right angles, the two straight lines are parallel to each other.
If A, B, C, D are the angular points of a quadrilateral taken in order, and, if the angles at A and B are together equal to those at C and D, show that two sides of the quadrilateral are parallel to each other.
10. Equal triangles on the same base and on the same side of it are between the same parallels.
If a quadrilateral is divided into four equal triangles by its diagonals, show that it is a parallelogram.
11. Draw a triangle ABC, and through A draw a line parallel to BC; show how to draw through B a line cutting AC in P, and the above-mentioned parallel in Q, so that BP shall be one-third of PQ.
12. If one diagonal (AC) of a quadrilateral bisects the other diagonal (BD), show that AC also bisects the quadrilateral itself.