

AN ROINN OIDEACHAIS

(Department of Education.)

BRAINNSE AN MHEADHON-OIDEACHAIS

(Secondary Education Branch).

INTERMEDIATE CERTIFICATE EXAMINATION, 1940.

MATHEMATICS (Arithmetic).

MONDAY, 17th JUNE.—MORNING, 10 A.M. TO 12
NOON.

The total number of questions answered should not exceed six.

Mathematical Tables may be obtained from the Superintendent.

1. Find the cost of 7 tons 13 cwt. 3 qrs. at £12 6s. 8d. per ton.

[30 marks.]

2. The rent of a rectangular plot of ground 120 feet long and 27 feet wide is £7 10s. What would be the rent of an acre at that rate?

[30 marks.]

3. Calculate, to the nearest penny, the Compound Interest on £350 for four years at 4% per annum.

[30 marks.]

4. Express, in simplest form, the value of the expression:

$$\frac{(8.8)^3 + (3.3)^3}{(6.6)^3 + (5.5)^3}$$

[30 marks.]

5. Wine purchased at 160 francs per litre was sold at 13s. 9d. per pint. Find the percentage profit, correct to *two* significant figures.

[See Tables, page 33 ; £1=176 francs.]

[30 marks.]

6. How many rectangular slips, each 1.28 inches in width, could be cut off a rectangular sheet of paper 3 feet long and 2 feet wide (a) along the length of the paper, (b) along the breadth? Find in each case the width of the residual slip.

How many squares each 1.28 ins. in side could be cut out of that sheet of paper?

[35 marks.]

7. A map of a district was made to a scale of 5 inches to the mile. How many acres would be represented on that map by an equilateral triangle 4 inches in side?

Give result correct to the nearest acre.

[35 marks.]

8. A rectangular field whose length and breadth are in the ratio 3 : 2 has an area of 15 acres. Find, to the nearest second, how long it would take a person to walk across that field along the diagonal from corner to corner at the rate of three miles per hour.

[35 marks.]

9. A cube has the same total surface area as a cylinder whose height is equal to the diameter of its base. The volume of the cube is one cubic inch: what is the volume of the cylinder?

[35 marks.]