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(Department of Education).

BRAINSE AN MHEÁN-OIDEACHAIS
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INTERMEDIATE CERTIFICATE EXAMINATION, 1929.

MATHEMATICS.

ARITHMETIC—Paper B.

MONDAY, 17th *JUNE*.—MORNING, 10.45 A.M. TO 12.15 P.M.

Each item (*a*), (*b*), (*c*), (*d*), (*e*), (*f*) in Section I. will be counted as a *half-question*. The total number of questions answered should not exceed *five*, every pair of items from Section I. being counted as a whole question.

(Candidates should see that answers to questions in excess of *five* are cancelled).

Mathematical Tables may be obtained from the Superintendent.

SECTION I.

(Each item (*a*), (*b*), (*c*), (*d*), (*e*), (*f*) in this Section carries 15 marks).

(*a*) Express in pounds, shillings and pence 6,298 times 13*s*. 9*d*.

(*b*) Simplify $\dfrac{5\frac{1}{9} \text{ of } 2\frac{17}{28} - 6}{4\frac{2}{11} - 2\frac{3}{4}} \div 2\frac{2}{21}$

(*c*) Find, to two decimal places, what percentage 1 qr. 15 lbs. 12 oz. is of one ton.

(*d*) Find, *by practice*, the value of 11 tons 12 cwts. 2 qrs. at £7 18*s*. 4*d*. per ton.

(*e*) Simplify $\dfrac{7259}{8113} - \dfrac{1952}{3477}$.

(*f*) Find, in inches, to three places of decimals, the side of a square whose area is 41·9 square feet.

Section II.

(Each question in this Section carries 32 marks).

1. The cost of papering the four walls of a room 15 ft. 6 ins. long and 12 ft. broad with paper $1\frac{1}{2}$ ft. wide, which is sold at 4s. 9d. per piece of 12 yards, is £2 12s. 3d. Find the height of the room.

2. Express 488 lbs. per cubic foot in grams per cubic centimetre. (See Mathematical Tables for data required).

3. A man receives £19 11s. 2d. as Simple Interest on £489 at 2 per cent. per annum. How much more would he have received if Compound Interest at the same rate per annum had been paid?

4. A cylindrical tank 106 centimetres deep has a capacity of 100 litres. Find (i) the area of the base, (ii) the area of the curved surface.

5. A man buys land of which he sells one-half for £259 at a loss of 16 per cent. At what price must he sell the other half so as to gain 7 per cent. on the whole transaction?

6. An ordnance survey plan is drawn to a scale of 1 to 500. Express this scale in inches to the mile and find, in acres, the true area of a field which occupies 38·4 square inches on the plan.

7. Two horses are tied by ropes of equal lengths, each to one of two opposite corners of a square field of side 50 feet. If the part of the field over which both can graze is equal to the part over which neither can graze, find the length of the ropes.