

AN ROINN OIDEACHAIS

(Department of Education)

INTERMEDIATE CERTIFICATE EXAMINATION, 1959.

MATHEMATICS (Arithmetic).

TUESDAY, 2nd JUNE.—MORNING, 10 TO 12.

All questions to be answered.

Mathematical Tables may be obtained from the Superintendent.

1. Find the cost of each of the following items and find their total cost :

5 yards, 2 feet of material at 4s. 6d. a yard,

10 square yards of floor-covering at 1s. 6d. a square foot,

25 gallons of milk at 5½d. a pint,

7 cwt., 3 stone of potatoes at £26 a ton.

[25 marks.]

2. Find the value of $105.6 \times (0.7384)^2 \div \sqrt{27.94}$ correct to three significant figures.

[25 marks.]

3. A circular field has an area of 3,000 square yards. Find the length of its circumference, correct to the nearest yard.

[30 marks.]

4. Find (i) the simple interest and (ii) the compound interest on £260 for 2 years at 5% per annum.

A sum of money is invested at compound interest. The interest for the first year is £150 and the interest for the second year is £159. Find the rate of interest and the sum of money.

[30 marks.]

5. Simplify $(7\frac{1}{4} - 2\frac{2}{3}) \div 5\frac{1}{2}$.

Find the L.C.M. (least common multiple) of the three numbers 60, 98 and 525.

If the L.C.M. of 60, 98 and 525 is also the L.C.M. of 60, 98 and N, where N is another whole number, find (i) the least value that N can have, and (ii) the greatest value that N can have.

[30 marks.]

6. (i) The capacity of a can is 5 litres. Find the percentage error involved in taking the capacity to be one gallon, if one gallon = 4.55 litres.

(ii) A profit of 40% is made by selling an article for £35. Find the cost price of the article.

(iii) A dealer is selling a car at a certain price. He would make twice as much profit on it if he were to increase the price by 20%. What percentage profit is he making on it at present ?

[30 marks.]

7. A piece of copper wire of diameter 0.6 inches weighs 5 lb. Find the length of the piece of wire, in inches, correct to the nearest inch, given that a cubic foot of copper weighs 555 lb.

What length of copper wire of diameter 0.3 inches would weigh 5 lb. ?

[30 marks.]