

AN ROINN OIDEACHAIS

(Department of Education).

INTERMEDIATE CERTIFICATE EXAMINATION, 1952.

MATHEMATICS (Arithmetic).

TUESDAY, 10th JUNE.—MORNING, 10 TO 12.

The total number of questions answered should not exceed *six*.
Mathematical Tables may be obtained from the Superintendent.

1. Find, correct to the nearest pound, the cost of laying 8 miles, 5 furlongs, 10 perches of track at £70 16s. per mile.

[30 marks.]

2. Simplify $\frac{\frac{1}{4} + \frac{2}{3}}{3\frac{1}{3} - 1\frac{1}{2}} \div \frac{3\frac{1}{4} \times 1\frac{1}{3}}{2\frac{2}{3} - \frac{2}{7} \times 1\frac{2}{3}}$.

[30 marks.]

3. Find, correct to the nearest penny, the compound interest on £640 for 2 years at $4\frac{1}{2}\%$ per annum.

[35 marks.]

4. (i) A man buys an article at £1 15s. and sells it at £2. Find his percentage profit.

(ii) A dealer bought two cars, one at £800 and the other at £600. He sold the first car at a profit of 15% and he sold the second car at a loss of 5%. What percentage profit did he make on the transaction as a whole?

[35 marks.]

5. From the formula, $V = \sqrt{\frac{hdg}{D}}$, find the value of V, correct to three significant figures, when $h=76.2$, $d=13.59$, $g=981$, and $D=0.001283$.

[35 marks.]

6. A solid metal cylinder is 2 feet high and its diameter is 1 foot 8 inches. Find the volume of the cylinder correct to the nearest tenth of a cubic foot.

The cylinder is placed on its side at the bottom of a rectangular trough, 50 feet long and 30 feet wide, so that its axis is parallel to the base of the trough. Find, correct to the nearest cubic foot, the volume of water that must be poured into the trough so as just to cover the cylinder.

[Take $\pi=3\frac{1}{2}$].

[35 marks.]

Or,

6. A commodity costs 650 francs per kilogram. Find, correct to the nearest £1, the profit made by selling a hundredweight of the commodity at 7s. 6d. per pound.

[£1=979 francs ; 1 pound=453.6 grams.]

[35 marks.]