AN ROINN OIDEACHAIS
(Department of Education).

BRAINNSE AN MHEÁN-OIDEACHAIS
(Secondary Education Branch).

INTERMEDIATE CERTIFICATE EXAMINATION, 1934.

MATHEMATICS (Arithmetic).

FRIDAY, 15th JUNE.—MORNING, 10 A.M. TO 12 NOON.

The total number of questions answered should not exceed *six*.

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

Mathematical Tables may be obtained from the Superintendent.

(N.B.—The Diagrams for Questions 5 and 6 may be pricked through to your Answer-Book.)

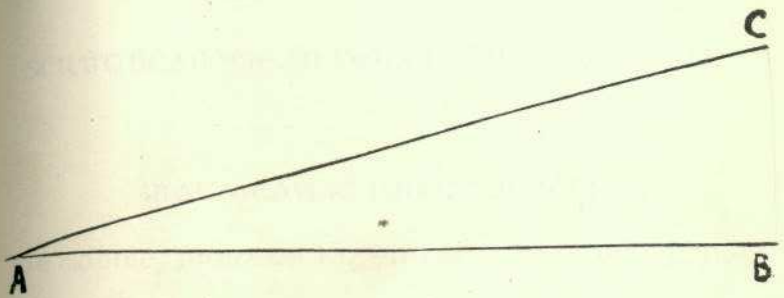
1. Express 14s. 7d. as a decimal of £1. Evaluate £6 14s. 7d. × 2·67, giving the result correct to the nearest penny. [28 marks.]

2. Find in what time the Simple Interest on £288 at 5% per annum would be equal to the Simple Interest on £480 for 60 days at 4½% per annum. [30 marks.]

3. The minute hand of a clock is 13·8 ins. long, and the hour hand is 9·6 ins. long. Calculate the difference between the distances travelled by the tips of the two hands (i) in an hour; (ii) between 8.50 a.m. and 4.35 p.m. on the same day. [30 marks.]

4. The food-bill for 187 people for a certain number of days was £4,405 10s. and the average cost of food per person per day was 1s. 10¼d. Find the number of days. [30 marks.]

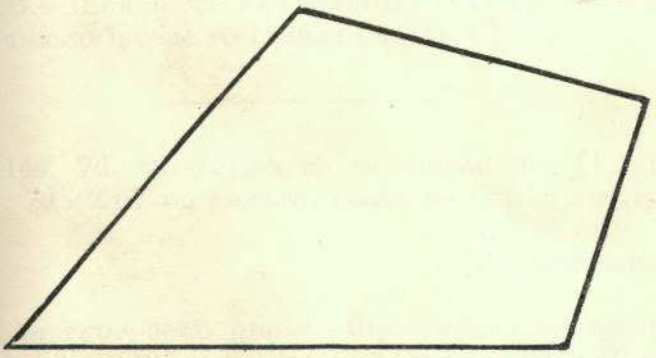
5. The highest point C of the road AC is 3,500 feet above the level AB. What is the length of the road ?



What height above AB would a person be when he had travelled a mile up that road ?

[33 marks.]

6. The accompanying diagram is a plan of a farm drawn to a scale of 3 *inches to the mile*. Find the area of the farm in acres.



[34 marks.]

7. A dealer purchased goods at a price which was 15% below their market price, and sold them at a price 20% above the market price, thereby making a profit of 4 guineas. Find :
(*i*) the selling price ; (ii) what his percentage profit or loss would have been had he sold them for 10 guineas.

[34 marks.]

8. Assuming that a Metre = 39·3708 inches, calculate to *two* significant figures the percentage error involved in each of the approximations : (*a*) 1 inch = $2\frac{1}{2}$ cms. ; (*b*) 1 Kilometre = $\frac{5}{8}$ mile.

[34 marks.]

9. A water-tap is fed through a pipe 1 inch in internal diameter. Find at what average rate, in miles per hour, the water is flowing along the pipe when the tap is delivering 5 gallons of water per minute.
[See Mathematical Tables, page 33, for " constants."]

[35 marks.]