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(Department of Education).

BRAINSE AN MHEÁN-OIDEACHAIS
(Secondary Education Branch).

INTERMEDIATE CERTIFICATE EXAMINATION, 1926.

MATHEMATICS.

ARITHMETIC—Paper B.

FRIDAY, 18*th JUNE*.—MORNING, 10.30 A.M. TO 12 NOON.

Five questions may be answered.

The questions at the end of the paper carry somewhat higher marks than the others.

Tables of Measures, Constants and Formulae, and Logarithmic Tables may be obtained from the Superintendent.

1. Express £3 17s. 9½d. as a decimal of £8 14s. 10d., correct to *four* places of decimals, and find the value, correct to the nearest penny, of 0·5678 of £934 4s. 7d.

2. Find the Simple Interest on £370 14s. 10d. from March 27th to November 5th of the same year at 2½ per cent. per annum. (If a formula be used it must be proved.)

3. Using contracted methods, find, correct to *three* significant figures, the value of: $\frac{36 \cdot 792483 \times 0 \cdot 0382497}{1 \cdot 23456789}$.

4. The accompanying diagram, drawn to a scale of 2 centimetres to a foot, represents a kite consisting of a semi-circle and a triangle. Calculate the area of the kite and find, correct to two significant figures, what percentage of the entire area is contained in the semi-circle.

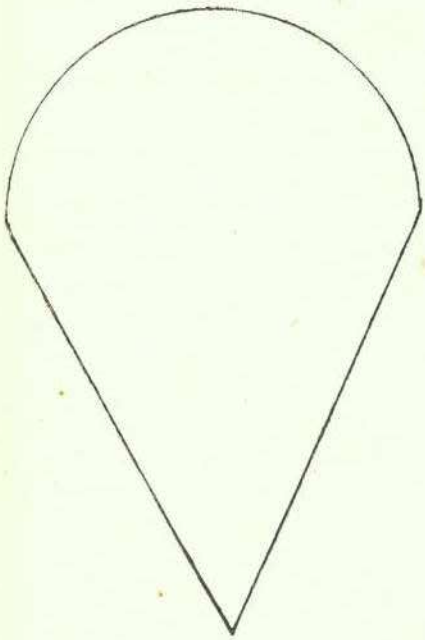
5. A square plot of ground contains 9·684 acres. A man walking at three miles per hour crosses the field diagonally from corner to corner: calculate, to the nearest second, how long it takes him.

6. By what percentage is a cost of 13s. 7d. per yard greater or less than a cost of 56·27 francs per metre?

What should be the change in the price per yard so that the two costs should be equal? (£1 = 123¾ francs.)

7. Two cylindrical vessels, A and B, stand on a table. A is 9 inches high and 10 inches in diameter, the corresponding dimensions for B being 14 and 16 inches respectively. A book two inches thick is put under A, which is then filled with water and connected with B by a syphon. Water flows from A into B until the level of the water is the same in both vessels: find the depth of the water remaining in A.

8. A runs 6⅔ yards while B runs 7 yards; B runs 16½ yards while C runs 15 yards: if A can run a mile in 5 minutes 15 seconds, what time will C take to do it?



[*Diagram for Question* 4.]