

COMMON EXAMINATION FOR
ENTRANCE TO PUBLIC SCHOOLS AND
ROYAL NAVAL COLLEGE, DARTMOUTH.

SUBJECT—**ARITHMETIC.**

[60 minutes.]

[N.B.—All boys MUST do A before going on to B, but are recommended to do as much as they can of B.]

Dartmouth Candidates must attempt both parts of the paper.

A.

I. A collection contained 53 pennies, 39 threepences, 33 sixpences, 28 shillings, and 17 half-crowns. Find the value of the collection.

II. Express 10,000 yards in miles, chains, yards.

III. (i) Multiply $69\cdot04$ by $47\cdot5$.

(ii) Divide $0\cdot12903$ by $25\cdot5$.

IV. Simplify $4\frac{6}{38} - 1\frac{1}{2} \times 2\frac{3}{7} + 2\frac{3}{10}$.

V. Express $\text{£}3\cdot7948$ in £ s. d. correct to the nearest penny.

VI. It takes me 28 minutes to walk from my house to the station if I walk at $3\frac{1}{2}$ miles an hour. How long do I take if I walk at 4 miles an hour?

[P. T. O,

B.

[*Begin a new sheet.*]

VII. (i) Find the number which when increased by 12 per cent. becomes 84.

(ii) A straight line 4 inches long is divided into three equal parts. What is the error per cent. in taking the length of each part as 1.3 inches?

VIII. A rectangular sheet of steel is 8 inches square and weighs $2\frac{1}{4}$ lb. Find its average thickness correct to $\frac{1}{100}$ in., given that 1 cu. ft. of steel weighs 485 lb.

IX. A solid circular cylinder is 5 cm. in diameter and is 3 cm. long. Find the *total* area of its surface correct to $\frac{1}{10}$ sq. cm. Take $\pi = 3.142$.

X. Given that a one-gallon jar holds 277.3 cu. inches of water, find correct to 4 significant figures the number of cu. inches in 5 pints.

XI. Electricity is said to be consumed at the rate of 1 watt if $\frac{1}{1000}$ of a unit is used per hour. Find to the nearest penny the cost of running a large electric fan for 45 hours a week for 52 weeks if its rate of consumption is 150 watts and if electricity costs $1\frac{3}{4}$ d. per unit.