

ALGEBRA.

1. Simplify

$a - (b - c) - \{b - (a - c)\} - [a - \{2b - (a - c)\}]$;
and shew that

$$\frac{a+c}{a-b} - \frac{b+c}{(x-a)} = \frac{x+c}{(x-a)(x-b)}$$

2. Find the G. C. M. of $a^3(b^4 - b^2c^2)$ and $b^3(ab + ac)^2$.

3. Solve the equations:—

$$(1) \frac{7.1 - 3x}{.5} - .8x = 9.44$$

$$(2) \frac{12}{x} + \frac{1}{12x} = \frac{29}{24}$$

PUPIL-TEACHERS AT END OF FOURTH YEAR.

Three hours and a half allowed.

ARITHMETIC.

MALES.

1. Three persons rent a piece of land for £60 10s. The first puts in 5 sheep for 4½ months, the second 8 sheep for 5 months, the third 9 sheep for ½ months. What share should each pay of the rent?

2. Compare the incomes to be derived from investing £3,500 in the 3½ per cents at 98, and £3,995 in the same stock at 99½.

3. If teas at 2s. 9d., 3s. 3d., 2s. 4d., respectively be mixed in equal quantities, and the mixture be sold at 16 guineas per cwt., what will be the gain or loss per cent.

4. What percentage on $\sqrt[3]{1,000,000,000}$ is $\sqrt{112} \times \sqrt{175}$?

5. Find two decimal fractions together equal to $\frac{1}{12}$, and such that one shall be $\frac{1}{12}$ of the other.

FEMALES.

1. What sum of money will amount to £256 10s. in 4 years at 3½ per cent. simple interest.

2. If a man can travel 198 miles by railway for £2 9s. 6d., how far at the same rate of charge ought he be carried for £8 os. 10½d.?

3. The price of a work which comes out in parts is £2 16s. 8d., but if the price of each

part were 13d. more than it is, the price of the work would be £3 7s. 6d. How many parts are there?

4. Divide £11,000 among 4 persons, A, B, C, D, in the proportions of $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, and $\frac{1}{5}$.

GRAMMAR.

1. "And to a pleasant grove I 'gan to pass
Long ere the bright sun uprisen was;
In which were oakës great, straight as
a line,
Under the which the grass, so fresh
of hue,
Was newly sprung; and an eight foot
or nine
Every tree well from his fellow grew,
With branchës broad, laden with
leavës new,
That sprangen out against the sunnë
sheen;
Some very red; and some a glad light
green;
Which, as me thought, was a right
pleasant sight."
—Chaucer ("The Flower and the Leaf.")

(a) Notice any points in which the English of the above passage differs from modern English.

(b) How many sentences are there in it? and by what means are they connected?

(c) Name the particular kind of sentence to which each belongs.

(d) Parse the words in italics.

2. Give the origin (old English derivation) of the following words: *Ought, must, durst*; and of *better, worst, least, cunning*.

GEOGRAPHY.

1. Give notes of a lesson on Central America, and illustrate it by a map.

2. Describe fully the Indian Ocean, with the seas, gulfs, and bays connected with it, its chief currents, and periodical winds.

One hour allowed for Females. Two hours and a half allowed for Males.

HISTORY.

1. What families have occupied the throne of England since 1066, and from what countries did they severally spring?

2. Mention the chief foreign possessions