GRAMMAR.

What do you mean by "Double Feminines" and "Double Plurals?" Illustrate your answers as fully as possible.

2. Explain the various uses of *do* as a tense auxiliary.

3. State in detail the modes in which adverbs are formed from other parts of speech.

4. Parse all the words ending in *ing* in the following sentence: Returning hence we kept singing as we went marching along, the shining of the silent stars aiding us in overcoming the depressing difficulties of the journey.

5. Point out and discuss anything grammatically noticeable in the following sentences: Which if he had missed would have proved a great misfortune. Thou lovest; but n'er knew love's sad satiety. No well-digested measure of reform but will, if elected to Parliament, enjoy my best consideration. Wolsey left at his death many buildings which he had begun in an unfinished state.

6. Discuss the question whether English is or is not "a composite language."

ANALYSIS.

1. "The distinction between noun and adjective clauses should be carefully noted in cases where they agree in form." Explain and illustrate this statement.

2. "I am not sorry *that such an event took place.*" Give your analysis of italicised clause.

3. Name and illustrate the four types of co-ordination in compound sentences.

4. Give a general and detailed analysis of—

" But me, not destined such delights to share,
My prime of life in wandering spent, and care ;
Impelled with steps unceasing to pursue
Some fleeting good that mocks me with the view ;
That, like the circle bounding earth and skies,
Allures from far, yet, as I follow, flies ;
My fortune leads to traverse realms alone,
And find no spot of all the world my own."

ARITHMETIC.

1. Prove that the multiplier and the multiplicand may change places without altering the value of the product, and find a number such that when added to 7260 twelve times, and the sum divided by 15 the quotient will be 600.

2. Explain the rules for finding the Highest Common Factor and Least Common Multiple of Fractions, and express $\frac{3}{4}$ in the form of a fraction having $7\frac{1}{2}$ for a denominator.

3. How do you determine the kind of decimal to which a given vulgar fraction can be reduced? show that, in the case of a finite decimal, the number of decimal places may be inferred from the factors of the denominator, and multiply 3-7 of .175 by .205714, and divide the result by .00425.

4. If a cubic foot of water weighs 1000 ozs. avoirdupois and gold is 19.3 times heavier than water, how many cubic inches of gold are there in an obelisk which weighs 370,000 oz. Troy?

5. The 3 per cents, which now stand at $93\frac{1}{4}$, were at $87\frac{1}{2}$ ten days ago. If the same rate of increase in their value continues, what difference in my income will be the consequence of 5 days' delay in investing £10,500 in them?

6. Having sold a quantity of sugar on a commission of 3 per cent., and invested the proceeds in tea on a commission of 2 per cent. on the price paid for the tea, I find my whole commission is $250. Find (1) the amount received for the sugar, (2) the sum invested in tea.

7. Investigate the formula for Compound Interest.

GEOMETRY.

1. Equal triangles upon the same base, and upon the same side of it are between the same parallels.

2. Show how to trisect a right angle, and using this method " in a given square inscribe an equilateral triangle having one of its angular points upon one of the angular points of the square, and its two remaining angular points one in each of two adjacent sides of the square."

3. To divide a given straight line into two parts, so that the rectangle contained by the whole and one of the parts shall be equal to the square on the other part.

4. If the two exterior angles at the base of a triangle be bisected, and the bisecting lines produced until they intersect, the line drawn from the point of intersection to the vertical angle will bisect it.

5. If two chords in a circle cut one another, the rectangle contained by the segments of one of them is equal to the rectangle contained by the segments of the other.

6. Having given the radius of a circle, determine its centre, when the circle touches two given lines, which are not parallel.

7. About a given circle to describe a triangle, equi-angular to a given triangle.

ALGEBRA.

1. The terms of a trinomial are—9 a, 12$\sqrt{a}$, and 4. What must be the signs of the last two terms so that the trinomial may be factored? What are the factors?

2. Divide $x^{\frac{4}{3}} + 2x^{\frac{2}{3}} + 1 - x^{-\frac{4}{3}}$ by $x + x^{\frac{1}{3}} + x^{-\frac{1}{3}}$.

3. Find the value of $\left(\dfrac{\sqrt{3} + \sqrt{2}}{\sqrt{3} - \sqrt{2}} \right) \left(5 - 2\sqrt{6} \right)$

and show that $\dfrac{\sqrt{x} - \sqrt{a}}{\sqrt{x-a}} = \sqrt{\dfrac{\sqrt{x} - \sqrt{a}}{\sqrt{x} + \sqrt{a}}}$

4. A and B ran a mile. A gave B 44 yards start and beat him by 51 seconds. He then gave him 1 minute 15 seconds start, and was beaten by 88 yards. In what time could each run a mile?

Solve the equation $(x^2 - x)^2 + x = 132 + x^2$.

6. Insert 4 Geometrical means between $5\frac{1}{3}$ any $40\frac{1}{2}$.

READING.

What next befell me then and there
I know not—well I never knew:—
First came the loss of light, and air,
And then of darkness, too.
I had no thought, no feeling—none;
Among the stones I stood a stone,
And was, scarce conscious what I wist,
As shrubless crags within the mist;
For all was blank, and bleak, and gray,
It was not night—it was not day;
It was not even the dungeon-light,
So hateful to my heavy sight,
But vacancy absorbing space,
And fixedness—without a place;
There were no stars,—no earth,—no time,
No check,—no change,—no good,—no crime,
But silence, and a stirless breath
Which neither was of life nor death;
A sea of stagnant idleness,
Blind, boundless, mute, and motionless !

UNIVERSAL HISTORY.

1. Name and locate the principal ancient and modern nations included in the three main branches *of the real historic race.*

2. The *Phœnicians*—their origin, colonies, commerce and the part played by them as diffusers of civilization

3. Give a sketch of the Peloponnesian War.

4. Write a note on the Literature, Science, and Art of the Middle Ages.

5. Give an account of the rise of the Dutch Republic.

6. State the chief provisions of the Constitution of the United States.

PRACTICAL MATHEMATICS.

1. Define. *Logarithm, Mantissa, Co-Logarithm.* State the principles upon which the processes of multiplication, division, involution and evolution of large numbers may be facilitated by the aid of logarithms, and explain why *unity* cannot form the base of a system of logarithms.

2. Show how to find (by the use of a diagram) the distance of a station of observation from three points, whose distances from each other and the horizontal angles at the observer's position are known.

3. What is meant by π? What is its value and how found?

4. The three sides of a triangle are 20, 30, and 25 respectively. Find the position of the point which is equally distant from the three angles.

5. Find the contents of a mast 57 feet high and the girths at its ends 63 and 38 inches.

6. Explain the equation

$$S = (V + v)\frac{t}{2},$$

and find the mean velocity of a body projected vertically downwards with a velocity of 30 ft. per second, during the first five seconds of descent.

BOOK-KEEPING.

1. Explain how the following accounts are closed: Interest, Stock, Bank, Cash, Expenses, Bills Payable, Commission and Profit and Loss.

2. Give the principal rules for journalizing.

3. What are Bills of Exchange; and what is meant when we say Sterling Exchange is at $9\frac{1}{2}$ per cent. premium?