2. Enunciate the Parallelogram of Forces.

Show that as the angle between the forces is increased the resultant is diminished. If each force be increased by a force of the same magnitude, how will the direction of the resultant be affected; and how if the forces be increased in the same ratio.

3. A weight of 100 lbs. is carried on a square board, supposed without weight, by four men, one at each corner. Construct for the position of the weight that they may support respectively 10, 20, 30, 40 lbs.

4. The arms of a balance are a and b inches in length respective. What fractional part of his goods would a dealer gain or lose, who, in selling 10 lbs., for example, balances the 5 lb. weight first in one pan and then in the other?

5. AB is an inclined plane, AC horizontal, BC vertical, and the 6. AB is an include plane, AC horizontal, BC vertea, and the angle BAO is 30° . A weight of 12 lbs. is kept at the middle point of AB by a string passing through the plane and attached to C; find the tension of the string and the reaction of the plane. To what points in AO could the string, supposed tense, be fastened so that equilibrium would be possible?

6. A triangle ABC, whose angles are 30°, 60° and 90°, rests with its hypotonuse AB horizontal, and on the sides CA, CB weights support each other by being attached to a string that passes over C. Find the ratio of the weights. If, the triangle remaining in the same position, the string be horizontal, what is the ratio of the weights ?

7. A cylindrical vessel is partly filled with water; examine accurately the cause and nature of the changes in the pressures on the sides and bottom of the vessel and on the table supporting the vessel, owing to a piece of wood being placed in the water.

If a vacuum were in some way created within the fluid, owing to which it rose in the containing vessel, would any change take place in the pressure on the table?

8. What changes would take place in the mercurial column of a barometer, if within a diving bell, as the bell rose or sank? What if in the upper part of a pump, as the water rose in the pipe below? Explain.

9. In the common pump find the resultant pressure on a piston 6 inches in diameter, the water in the pipe below standing 12 feet above the surface of the water in the cistern, and the pressure of the air being 15 dbs. to the square inch. A cubic of water weighs 1,000 ounces.

Values. -1, 3+6+4; 2, 4+4+4+3; 3, 13; 4, 13; 5, 16; 6, 16; 7, 13; 8, 8; 9, 13.

ENGLISH GRAMMAR.

TIME-THREE HOURS.

Examiner.-J. M. BUCHAN, M.A.

1.

"My own Enone,

Beautiful-brow'd Enone, my own soul, Behold this fruit, whose gleaning rive ingrav'n ' For the most fair,' would seem to award it thine,

As lovelier than whatever Orcad haunt

The knolls of Ida, lovelicst in all grace

Of movement and the charm of married brows.'

-Tennyson.

(i). Analyze fully. (ii). Parse the italicized words.

Correct the literary form of the following selections :

"This method is rather difficult for young pupils, but by com-bining this method with the Look and Say method I think it forms

a very good method." "One method is to teach the words in the order they are in the lesson, the fault of this is that the pupils soon learn the words by rote, to say them even without a book.

"Another is to pronounce each word after having spelt it first, the same letter having different sounds in different words confuses the child,"

"The method of teach. z reading, by first pointing out words and having them pronounced properly, and then the teacher read-ing the sentence as it should be read, and the pupils read afterwards, trying to imitate the teacher as much as possible, is to be tations where you can. commended." 5. "But hark ! what blithe and jolly peal

"In the Look and Say method the word is taught as a whole which is most natural, the words should be printed on the board and pointed out to the child until its picture is familiar to his eye he

will then be able to name the word whenever he sees it."

"We may then show that this may be done by inverting the di-

visor and then proceed according to multiplication." "Afterwards question the class individually upon that part that you will be sure they all know."

"First, present one object to the pupils, and ask the name of the object ; they will answer an apple (or whatever name the object is) write the word 'apple ' on the black-board, and tell them that the word 'apple' stands for only one object.' 'By this mothod children * * *

are not confused by the difference of the sound of the letters when pronounced alone and their sound when combined to form a word." "A transitive verb is a verb that the action passes from the ac-

tor to the object.'

"Being there was such a number there he was afraid to proceed." "Sir I have just received word from the Secretary that I failed

to pass the examination in Chemistry and that 'I will have to satis-

fy the Examiners hereafter as to my knowledge of that subject.' As you was the Examiner in that subject I would like to know what must I do in order to pass in it. I have now been to * * * twice attending the Normal there

and if it were possible to pass without having to go again I would like it very much.

If you would be kind enough to inform me of what is the best course to pursue 1 would be greatly obliged."

3. (i). Does equation rhymo with relation or occasion ?

(ii). Does rind rhyme with signed or sinned ? (iii). Distinguish ay and ayo as to pronunciation and leaning.

(iv). Accentuate complaisant, sonorous, peremptory.

4. Distinguish between

Wait on and wait for.

He entered the literary profession and He entered a literary profession. Invalid and invalid.

õ. Punctuate the following sentence in two ways :--

John says William is both an able and a good man. 6. Correct, or justify-

The auxiliaries may, can, and must are by some regarded as principal verbs.

Cornaro had become very corpulent previous to the adoption of his temperate habits.

Neither I nor he live anywheres in the neighbourhood.

7. Parso the italicized words in the following sentence :-"The results which God has connected with actions will inevitably occur, all the created power in the universe to the contrary notwithstanding."-Wayland.

8. The verb agrees with its nominative in number and person. Show how this rule applies in the various cases in which a verb is preceded by two or more nominatives.

9. Write sixteen words derived from the Latin verb pello.

Values.--1, 10+42; 2, 48; 3, 2+2+6+3; 4, 12; 5, 2; 6, 12; 7, 9; 8, 16; 9, 16.

ENGLISH LITERATURE.

TIME -- TWO HOURS AND A QUARTER.

Examiner-J. M. BUCHAN,

SIR ROGER DE COVERLEY.

1. Sketch the character of the Chaplain.

2. "The court was sat before Sir Roger came ; but notwithstand-ing all the justices had taken their places upon the bench, they made room for the old knight at the head of them ; who, for his reputation in the country, took occasion to whisper in the judge's car that he was glad his lordship had met with so much good weather in his circuit."

- (i). What court was this? (ii). Who are meant by 'the justices'? (iii). For his reputation in the country. Explain the force of 'for.'
- 3. How did the Spectator differ from a modern nowspaper?, THE LADY OF THE LAKE.

4. Give an account of the gathering of the clans, introducing quo-

- - Makes the Franciscan steeple reel?
 - And see ! upon the crowded street,
 - In motley groups what masquers meet !