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Bryn Mawr College Examination Papers Set for Matriculation in May, 1897

Bryn Mawr College

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Office

BRYN MAWR COLLEGE.



EXAMINATION PAPERS

SET FOR MATRICULATION

IN

MAY, 1897.



*This pamphlet may be obtained at the Secretary's Office, Bryn Mawr College,
on payment of twenty-five cents.*

Please Remit.

BRYN MAWR COLLEGE.

EXAMINATIONS FOR MATRICULATION.

Examinations for matriculation in Bryn Mawr College are held at the college during the week preceding the opening of each academic year, and also during the last week of each academic year. In the spring examinations may also be arranged for in other places. In 1898 examinations for matriculation will be held from May 27th to June 1st, inclusive, at Bryn Mawr College, and also in Boston, New York, Philadelphia, Baltimore, Chicago, Louisville, Portland, Oregon, College Park, California, and in London or Paris. Examinations for matriculation will also be held during the last week of the first semester of each year, but only at Bryn Mawr College, and for those candidates only that intend to enter the college at the half-year.

Applications for admission to examinations elsewhere than at Bryn Mawr College must be made at least one month before the date set for the beginning of the examination. Except in cases where the college has made special arrangements, an examination fee of five dollars is charged whenever the examination, or any part of it, is taken elsewhere than at Bryn Mawr College, and this fee must be paid to the Examiner before the candidate is admitted to the examination.

SPRING, 1898.

MAY 27.	31.
<i>English Grammar, etc.</i> , . . . 9½—11	<i>Latin Composition</i> , 9—10½
<i>English Composition</i> , 11—1	<i>History</i> , 11—1
<i>Geometry</i> , 2½—5	<i>German</i> , 2½—5½
28.	JUNE 1.
<i>Algebra</i> , 9—12	<i>Greek</i> , 9—12
<i>French</i> , 2—5	<i>Minor Latin, Section A</i> , 9—12
30.	<i>Solid Geometry</i>
<i>Latin Prose Authors</i> , 9—10¼	<i>and Trigonometry</i> , 2—5
<i>Latin Poets</i> , 11¼—1	<i>Minor Latin, Section B</i> , 2—5
<i>Science</i> , 3—5	

AUTUMN, 1898.

SEPTEMBER 26.		29.	
<i>English Grammar, etc.</i> ,	9½—11	<i>Latin Composition</i> ,	9—10½
<i>English Composition</i> ,	11—1	<i>History</i> ,	11—1
<i>Geometry</i> ,	2½—5	<i>German</i> ,	2½—5½
27.		30.	
<i>Algebra</i> ,	9—11	<i>Greek</i> ,	9—12
<i>French</i> ,	2—5	<i>Minor Latin, Section A</i> ,	9—12
28.		<i>Solid Geometry</i>	
<i>Latin Prose Authors</i> ,	9—10¾	<i>and Trigonometry</i> ,	2—5
<i>Latin Poets</i> ,	11¼—1	<i>Minor Latin, Section B</i> ,	2—5
<i>Science</i> ,	3—5		

MID-YEAR, 1898.*

JANUARY 31.		3.	
<i>English Grammar, etc.</i> ,	9½—11	<i>Latin Composition</i> ,	9—10½
<i>English Composition</i> ,	11—1	<i>History</i> ,	11—1
<i>Geometry</i> ,	2½—5	<i>German</i> ,	2½—5½
FEBRUARY 1.		4.	
<i>Algebra</i> ,	9—12	<i>Greek</i> ,	9—12
<i>French</i> ,	2—5	<i>Minor Latin, Section A</i> ,	9—12
2.		<i>Solid Geometry</i>	
<i>Latin Prose Authors</i> ,	9—10¾	<i>and Trigonometry</i> ,	2—5
<i>Latin Poets</i> ,	11¼—1	<i>Minor Latin, Section B</i> ,	2—5
<i>Science</i> ,	3—5		

The examination for matriculation must be taken by all who wish to pursue their studies at the college, either as candidates for a degree or as special students, unless they present a certificate of honorable dismissal from some college or university of acknowledged standing. The examination for matriculation will also be open to those who wish to take it as a test of proficiency in elementary studies, but have no intention of entering the college; and certificates will be given to those who are successful in passing the examination.

The subjects in which the candidate for matriculation must be examined are divided, for convenience of marking, into fifteen sections. A candidate may divide the examination into two parts, provided that not more than one calendar year and the summer recess elapse between the two parts of the examination. Should the candidate pass in fewer than three sections in the first division of

* The Mid-year examinations are open to those candidates only that intend to enter the college at the half-year.

the examination, the entire examination must be repeated. To secure a certificate of admission to the college, the candidate must have attempted all the fifteen sections included in the examination, and must have passed in at least eleven sections. All entrance conditions must be passed off within twelve months after the student enters the college classes.

Candidates are expected to show by their papers that all the subjects required for matriculation have been studied for a reasonable length of time, and are not presented as a mere form. Total failures at the second examination in all the branches of a language other than English, or in Mathematics, when such failure is of a character to indicate that the subject has been presented as a mere form, shall prevent the candidate from receiving any certificate for that examination, unless she can produce satisfactory evidence that the subject in question has been pursued for a reasonable length of time.

In addition to the subjects hitherto included in the examination for matriculation, the minor course in Latin, as outlined in the program, may also be offered for examination by candidates for admission that wish to enter with advanced standing ; but neither the minor course in Latin, Solid Geometry, Trigonometry, nor the fourth language, may be substituted for any part of the fifteen sections.

Bryn Mawr College offers annually eight competitive scholarships, four of the value of \$300 and four of the value of \$200, to candidates presenting themselves for the Spring matriculation examinations of Bryn Mawr College, a first scholarship of the value of \$300 and a second of the value of \$200, being open to candidates from each of the following districts.—(a) The New England States ; (b) New York and New Jersey ; (c) Ohio, Indiana, Illinois, Michigan, and Wisconsin, and the states west of the Mississippi river ; (d) Pennsylvania and all places not included in (a), (b), and (c).

The district to which a candidate shall be considered to belong shall be determined by the school at which she received her final preparation, or in case of preparation by private study by the place of residence during the year preceding the final examination ; but the candidate may present herself for examination at any place where such examination is held.

These scholarships, which are to be held for one year only, shall be awarded in each of the above named districts on the basis of the sum total of marks obtained by the candidate ; but no one shall be

considered eligible for the first scholarship who has received more than one condition in all the fifteen sections of the examination, and no one shall be considered eligible for the second scholarship who has received more than three conditions in the fifteen sections of the examination. When the examination has been divided, no account will be taken of those conditions incurred in the first part which have been passed off in the final examination.

The competition is limited to those who intend to spend at least one year at Bryn Mawr College, who have not studied at any other college, and who have not before presented themselves more than once in the Bryn Mawr College matriculation examinations. All those who present themselves shall be *ipso facto* candidates for these scholarships, no formal declaration of candidacy being required.

Inquiries may be addressed to the Secretary of Bryn Mawr College, and to the following graduates of Bryn Mawr College, who have kindly consented to serve as Honorary Corresponding Secretaries :

BERTHA HAVEN PUTNAM, A.B., 245 *West 75th Street*, NEW YORK CITY.

MILDRED MINTURN, A.B., 109 *East 21st Street*, NEW YORK CITY.

MARY McMURTRIE, A.B., *Chestnut Hill*, PHILADELPHIA.

SOPHIA WEYGANDT HARRIS, A.B., (MRS. JOHN McARTHUR HARRIS), 5305 *Main Street*, GERMANTOWN.

EDITH PETTIT, A.B., 2205 *Trinity Place*, PHILADELPHIA.

MARGARET THOMAS CAREY, A.B., (MRS. ANTHONY MORRIS CAREY), 835 *Eutaw Street*, BALTIMORE, MARYLAND.

RUTH WADSWORTH FURNESS, A.B., 417 *Orchard Street*, CHICAGO.

CATHARINE BEAN COX, A.B., (MRS. ISAAC M. COX), TULARE, TULARE COUNTY, CALIFORNIA.

ALICE JONES, A.B., SANTA MONICA, LOS ANGELES COUNTY, CALIFORNIA.

ALYS PEARSALL SMITH RUSSELL, A.B., (HON. MRS. BERTRAND RUSSELL), 44 *Grosvenor Road*, S. W., LONDON, ENGLAND.

Applications for admission to the examinations for matriculation should be made to the Secretary of Bryn Mawr College.

SECRETARY'S OFFICE, BRYN MAWR COLLEGE,
BRYN MAWR, PENNSYLVANIA.

June, 1897

TABULAR STATEMENT
OF THE
EXAMINATION FOR MATRICULATION.

Tabular Statement.—All candidates for matriculation *must* be examined in the following three groups :

	I.	II.	III.
<i>Mathematics</i> {	Algebra, 2. Plane Geometry, 1.	Latin Grammar and Composition, 1. Sight reading in Latin prose, 1. Sight reading in Latin poetry, 1.	History, 1. English, 1. Science, 1.

All candidates for matriculation *must* be examined also in one of the following groups:

	IV.	IV.	IV.
<i>Greek</i> {	Gram. and Comp., 1. Sight reading in Greek prose, 1.	<i>Greek</i> {	Gram. and Comp., 1. Sight reading in Greek prose, 1.
<i>and</i> {	Sight reading in Greek poetry, 1.	<i>or and</i> {	Sight reading in Greek poetry, 1.
<i>French</i> {	Grammar, } 3. Prose, } Poetry, }	<i>German</i> {	Grammar, } 3. Prose, } Poetry, }

The candidate *may* be examined in the following subjects, and if not examined, must pursue them either in the college classes or privately, and pass an examination in them before receiving the Degree of Bachelor of Arts :

<i>Advanced Mathematics</i> } Solid Geometry,* Plane Trigonometry.	A fourth	{ † <i>Greek</i> (as above) or <i>French</i> (as above) or <i>German</i> (as above)
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* For the examination in Solid Geometry may be substituted a course in Geometrical Conics as outlined on page 124 of the college program.

† Students that have omitted Greek in the examination for matriculation may substitute for the elementary course in Greek the minor course in Latin.

The minor course in Latin may also be offered for examination by candidates for matriculation that desire to enter college with advanced standing, and, at their discretion, by matriculated students without attendance on the college classes. The minor course is considered for this purpose as comprising two sections, constituted as follows :

A. Cicero, *2nd Philippic*, Livy, *Bk. xxi.*, Latin Prose Composition, including a detailed knowledge of the more abstruse Latin constructions, and some facility in turning simple English narrative into Latin.

B. Horace, *Odes, Epodes*, and *Carmen Saeculare*, except *Odes i. 25, 27, 33, 36; ii. 5; iii. 6, 15, 20; iv. 1, 8, 10, 13; Ep. 3, 5, 8, 11, 12, 15, 17.*

No substitutions are allowed for any part of the above requirements, except in the case of students entering with advanced standing from other colleges.

There are two examinations, one in Section A, and one in Section B, each three hours in length ; failure to pass in Latin Prose Composition involves failure in the whole of Section A. These examinations may be taken in different years, and in the order preferred by the candidate ; they are held only at the time of the regular matriculation examinations at the beginning and end of the college year, and application for admission to them must be made at least three weeks in advance.

The subjects in which the candidate for matriculation *must* be examined are divided, for convenience of marking, into fifteen sections. It will be observed that each language other than English is counted as three sections. Groups I., II., and III. contain three sections each; group IV. contains six sections. The figures attached to the subjects show the number of sections contained in each subject; where a bracket precedes the figure, the subjects enclosed by the bracket cannot be separated in the examination. Should the candidates pass in fewer than three sections in the first division of the examination, the entire examination must be repeated; but the three sections need not, except where this is indicated by the brackets, belong to one and the same group. Solid Geometry and Trigonometry or the fourth language cannot be substituted for any part of the fifteen sections.

Candidates are expected to show by their papers that all the subjects required for matriculation have been studied for a reasonable length of time. When the failure in any subject is of a character to indicate that the subject has been offered as a mere form, the candidate renders herself liable to receive no certificate for the examination in which the failure occurred.

I. Mathematics.—(1) and (2) Algebra. (3) Plane Geometry.

The examination in Algebra will comprise Elementary Operations, Quadratic Equations, Problems, Ratio, Proportion, Variation, Arithmetical and Geometrical Progressions.

While there will be no formal examination in Arithmetic, an adequate knowledge of the subject will be required throughout the mathematical examination; in *all* the papers there will be some numerical problems, and the correct solution of a fair number of these will be regarded as essential.

All candidates that do not, in addition to the above, present *Solid Geometry** and *Trigonometry* (including the use and theory of logarithms and the solution of triangles), must pursue these branches and pass an examination in them before receiving a degree. It is especially recommended that those intending to elect mathematical courses should pass the entire matriculation examination in mathematics. These candidates are advised to confine themselves to Algebra; Plane Geometry of the straight line and the circle; Solid Geometry and Trigonometry. More benefit will be derived from a thorough acquaintance with the pure geometrical methods than from a little knowledge of Analytical Geometry.

Students whose matriculation examination has included either Solid Geometry, or Trigonometry, or both, will be credited with the time which others must subsequently spend upon these studies.

Phillips and Fisher's *Elements of Geometry* or Wentworth's *Geometry* will be found suitable for preparation for the examination in Plane Geometry; for the examination in Solid Geometry either of these books or Wilson's *Solid Geometry* (Macmillan) is suitable; in Algebra and Trigonometry C. Smith's *Elementary Algebra* (American edition, revised by Irving Stringham), and Lock's *Trigonometry for Beginners* (Macmillan) are recommended.

II. Latin.—(1) Grammar and Composition. (2) Translation at sight of simple passages in Latin prose. (3) Translation at sight of simple passages in Latin poetry. Due allowance is made for unusual words and there are questions testing the candidate's practical knowledge of grammar and prosody.

The so-called Roman method of pronunciation, as explained in Gildersleeve's or in Allen and Greenough's *Latin Grammar*, is required.

As many schools are introducing the "natural method" as a substitute for thorough grammatical training, attention is called to the fact that special stress will be laid on an accurate and ready knowledge of grammatical forms. A knowledge of paradigms and parts of irregular verbs will be insisted upon.

Candidates are advised, whenever possible, to try the whole Latin examination at one time, although the three sections may be taken separately, and in any order the candidate may prefer.

* For the examination in Solid Geometry may be substituted a course in Geometrical Conics as outlined on page 124 of the college program.

III. History—(1) The outlines of the History of Greece and Rome ; or the outlines of the History of England and the United States.

Oman's *History of Greece* (second edition) ; Allen's *History of the Roman People* ; Gardiner's *A Student's History of England* ; Johnston's *History of the United States* and *The United States : its History and Constitution*, are recommended. It is also recommended, though in no sense required, that candidates become familiar, by means of carefully selected collateral references, with other books somewhat different in character from those mentioned above : such as, for Grecian History, Holm's *History of Greece*, vol. i., and *Epochs of Ancient History*, edited by Cox and Sankey, published by Longman ; for Roman History, Schuckburgh's *History of Rome*, Headlam's *Outlines of Roman History* and the *Epochs of Ancient History*, already mentioned ; for English History, *English History from Contemporary Sources*, edited by Hutton and Powell, published by Putnam, and *Epochs of English History*, edited by Creighton, published by Longman ; for American History, *Epochs of American History*, edited by Hart, published by Longman.

English.—(1) The candidate is required to write a short English composition, correct in spelling, grammar, punctuation, and general arrangement, and to correct specimens of bad English.

In 1897 candidates must be familiar with Chaucer's *Clerk's Tale* ; Shakespeare's *Merchant of Venice* and *As You Like It* ; Milton's *Samson Agonistes*, *L'Allegro*, *Il Penseroso*, and *Lycidas* ; Addison's *Sir Roger de Coverley Papers* ; Matthew Arnold's *Essay on Gray* and *Essay on A Guide to English Literature* ; Wordsworth's *Michael* and *The Leech Gatherer* ; Keats's *Eve of St. Agnes* ; Shelley's *Adonais* and *Sensitive Plant* ; Coleridge's *Ancient Mariner* and *Christabel*.

In 1898 candidates must be familiar with Chaucer's *Knight's Tale* ; Shakespeare's *Macbeth* and *Midsummer Night's Dream* ; Milton's *L'Allegro*, *Il Penseroso*, *Lycidas*, and *Paradise Lost*, Books I. and II. ; Addison's *Sir Roger de Coverley Papers* ; Matthew Arnold's *Essay on Gray* and *Essay on A Guide to English Literature* ; Wordsworth's *Michael* and *The Leech Gatherer* ; Coleridge's *Ancient Mariner* and *Christabel* ; Shelley's *Adonais* and *Sensitive Plant* ; Keats's *Eve of St. Agnes* ; Hawthorne's *House of the Seven Gables* ; Pater's *Child in the House* ; and Stevenson's *Master of Ballantrae*.

The books recommended for the years 1897 and 1898, by the Commission of Colleges of New England, will be accepted as equivalents. The books prescribed for candidates taking the regular examinations for matriculation in any given year will be required also of candidates taking the special matriculation examination provided for students entering the college in the February of the year following. Candidates passing off conditions after admission to the college may offer the books prescribed in the examination in which the condition was imposed.

In preparing for this examination especial attention should be given to paragraph-structure and to sentence-structure. Hill's *Foundations of Rhetoric*, Abbott's *How to Write Clearly*, and Bigelow's *Handbook of Punctuation*, are recommended.

Science.—(1) The elements of one of the following sciences :—Physics, or Chemistry, or Botany, or Physiology, or Physical Geography.

Carhart and Chute's or Gage's *Elements of Physics*, Remsen's *Introduction to the Study of Chemistry* (Briefer Course), Bessey's *Essentials of Botany*, Martin's *Human Body* (Briefer Course) or Foster's *Physiology for Beginners*, and Russell Hinman's *Physical Geography* are recommended. Candidates are advised, whenever possible, to offer Physics, as this study forms a better basis for further scientific work. It is recommended, though in no sense required, that candidates should have some knowledge of the metric system.

IV. Two of the following languages :

Greek.—(1) Grammar and composition. (2) Translation at sight of simple passages in Attic Prose, such as Xenophon's *Anabasis* or *Memorabilia*.

(3) Translation at sight of passages of average difficulty from Homer. Due allowance is made for unusual words and there are questions testing the candidate's practical knowledge of grammar, including prosody.

White's *Beginners' Greek Book* and Jones' *Exercises in Greek Prose*, or equivalents, are recommended.

French.—(1) The examination in French has three divisions, one to test the candidate's knowledge of pronunciation and ordinary grammatical forms, the other two, her power to read at sight ordinary French prose and verse.

For the examination in reading no texts are assigned, the examination being intended to test the candidate's ability to read any ordinary French whatsoever. Candidates preparing for these examinations are advised to acquire as large a vocabulary as possible. They are further advised in their study of verbs to concentrate their attention on the regular verbs, the auxiliaries *être, avoir*, such important irregular verbs as *aller, devoir, dire, faire, mettre, prendre, pouvoir, vouloir, tenir, venir, voir, écrire, lire, croire, boire*, and the typical verbs, *conduire, craindre, paraître, partir*, and to acquire a fair knowledge of the use of the various past tenses and of the rules of the subjunctive.

The examination in French may not be divided.

Teachers preparing students that wish to elect French in the college are advised to train their pupils to write French from dictation in order to enable them to understand lectures delivered in that language.

German.—(1) The examination in German is precisely similar to that in French, and will test the candidate's pronunciation, knowledge of ordinary grammatical forms, and ability to read ordinary German at sight.

The examination in German may not be divided.

The candidate may omit one of the three languages, Greek, French, or German, selecting for examination Greek and French, or Greek and German, or French and German.

With the exception of the Minor Course in Latin, all subjects potentially included in the examination for admission are regarded by the college as preparatory and non-collegiate. The college course of instruction in mathematics, for example, does not include but presupposes trigonometry; the courses in French and German presuppose a reading knowledge of these languages.

It is therefore to the interest of every candidate to offer, at entrance, advanced mathematics, and if possible all four languages, since to fail in such of these examinations as are not strictly obligatory will not affect the candidate's collegiate standing, and to pass them successfully will leave her nearly free for elective study under the Group System and for true collegiate work.

EXAMINATION PAPERS
SET FOR MATRICULATION
IN THE
SPRING, 1897.

BRYN MAWR COLLEGE.

EXAMINATION FOR MATRICULATION.

ALGEBRA. (*Counted as two sections.*)

SPRING, 1897.—THREE HOURS.

1. Resolve into factors

$$a^2 - b^2, \quad a^3 + b^3, \quad a^6 - b^6, \quad x^5 - 16x^3 + x^2 - 16.$$

2. Solve the equations

$$(i.) \quad \frac{x + 2}{x + 3} = \frac{x + 3}{x + 5};$$

$$(ii.) \quad \frac{x}{x + b} = \frac{1}{x - a} + \frac{1}{a} + \frac{1}{b}.$$

3. Enunciate and prove the rule for finding the highest common factor of any two compound algebraic expressions.

Illustrate your answer by taking for the two expressions

$$3 + 8x + 2x^2 - 5x^3, \quad 1 + 2x + x^2 - x^4.$$

4. Prove that if

$$\frac{a}{b} = \frac{c}{d},$$

then

$$\frac{a^2 + b^2}{c^2 + d^2} = \frac{(a + b)^2}{(c + d)^2};$$

also prove that under the same circumstances

$$(a^2 + c^2)(b^2 + d^2) = (ab + cd)^2.$$

[OVER]

5. Solve the equations

(i.) $x^2 + 7x + 6 = 0,$

(ii.) $\left(x + \frac{1}{x}\right)^2 = 4,$

(iii.)
$$\begin{cases} \frac{x}{y} - \frac{y}{x} = \frac{8}{3} \\ x - y = 4 \end{cases}$$

6. Prove that if $ax^2 + bx + c$ be divisible by $x - f$, then will $af^2 + bf + c = 0$; prove also that

$$f, -f - \frac{b}{a}$$

are the two roots of the equation $ax^2 + bx + c = 0$.

7. If a vary as b and if $a = 11$ when $b = 7$ find the value of a when $b = 10$.

Prove that if A vary as B when C is unchanged, and A vary as C when B is unchanged, then A will vary as the product BC when both B and C are changed.

8. Extract the square root of

$$a^4 + 6a^3b + 9a^2b^2 + 14a^2c^2 + 42abc^2 + 49c^4.$$

9. Divide \$897 in the proportion of 1, 2, 3, 4.

BRYN MAWR COLLEGE.

EXAMINATION FOR MATRICULATION.

PLANE GEOMETRY. (*Counted as one section.*)

SPRING, 1897.—TWO AND A HALF HOURS.

1. Prove that in an isosceles triangle the angles opposite to the equal sides are equal; and that if two angles of a triangle are equal, the triangle is isosceles.

ABC is an isosceles triangle, having each of the angles B, C equal to twice the angle A; the angle C is bisected by a line which meets AB in D. Show that the triangle ACD is isosceles.

2. Prove that if two right-angled triangles have the sides containing the right angle in one equal to the sides containing the right angle in the other, the triangles are equal in all respects.

Explain what is meant by symmetry about a line, and prove that if symmetrically placed points D, E, are joined to any point P on the axis of symmetry, the angles formed are equal.

C, D are points on opposite sides of a straight line AB; find a point P on the line AB such that the angles CPB, DPB, shall be equal.

3. Define a parallelogram, a rectangle, a rhombus. Give and prove the expression for the area of a parallelogram.

Using a diagonal of a given parallelogram for one side, construct a rhombus whose area shall be equal to that of the parallelogram.

[OVER]

4. Give and prove a construction for the third proportional to two given lines.

On AB , one side of a square, a point E is taken. Show how to make a rectangle on AE , whose area shall be equal to that of the square. Show that the perimeter of the rectangle will be greater than that of the square.

5. Prove that two tangents can be drawn from an external point to a circle, and that they are equal in length.

Show that the tangents at the vertices of a regular inscribed polygon form a regular polygon.

6. Give and prove the construction for inscribing a circle in a given triangle. Compare it with the construction for describing a circle to touch three given straight lines, pointing out the difference.

7. Show how to make upon a given straight line a segment of a circle that shall contain an angle equal to a given rectilinear angle.

8. Prove that the angle between a chord of a circle and a tangent at its extremity is measured by one half of the intercepted arc; and that it is equal to the angle contained by the segment of the circle that is cut off by the chord.

ABC is a triangle, P is a point on AB . The circles APC , BPC are drawn. Show that the tangents to the two circles at P are inclined at the same angle for all positions of P on the side AB .

9. Define similar figures. Prove that a line drawn parallel to the base of a triangle divides the sides proportionally.

Show how to construct a triangle with a given vertical angle, contained by sides in a given ratio, and having the perpendicular from the vertical angle to the base of a given length.

BRYN MAWR COLLEGE.

EXAMINATION FOR MATRICULATION.

LATIN. (*Counted as three sections.*)

FIRST SECTION: GRAMMAR AND PROSE COMPOSITION.

SPRING, 1897.—ONE AND A HALF HOURS.

1. Decline *vulgus*, crowd, and *sanguis*, blood. Decline the pronoun *is*. When is *unus* used in the plural? Express in Latin, *in the year 1897*. Give a synopsis of *volo* and *eo*. Give the principal parts of five irregular verbs, one of which has a reduplicated perfect; another, a lengthened root vowel in the perfect; the third, a perfect in *si*; the fourth, one in *ivi*; the fifth, a semi-deponent.

2. By what mood is *possibility, power, obligation, etc.*, expressed in Latin? What is predicate apposition? How is the negative imperative (prohibitive) expressed? What is the sequence of tenses in final (or purpose) clauses. What prepositions are construed with the ablative?

3. Translate into Latin:

He told me to buy him a horse for twenty minae, but said that he could not pay it now because his friend had not sent him the money that he needed. I am ashamed of my faults but what business is that of yours? He was leaning on the table, when suddenly the table was moved and he fell to the ground. I broke the window with a stone but I cannot remember what I was trying to hit. All the world is full of good men, but the wicked seem to have the most pleasures.

BRYN MAWR COLLEGE.

EXAMINATION FOR MATRICULATION.

LATIN. (*Counted as three sections.*)

SECOND SECTION : PROSE AUTHORS.

SPRING, 1897.—ONE AND THREE-QUARTER HOURS.

1. Translate Cæsar, *de bello Gallico*, VII., 84, 85.

Vercingetorix ex arce Alesiae suos conspicatus ex oppido egreditur; a castris longurios,¹ musculos,² falces reliquaque quae eruptionis causa paraverat profert. Pugnatur uno tempore omnibus locis acriter, atque omnia tentantur: quae minime visa pars firma est, huc concurritur. Romanorum manus tantis munitionibus distinetur, nec facile pluribus locis occurrit. Multum ad terrendos nostros valet clamor, qui post tergum pugnantibus exstitit, quod suum periculum in aliena vident virtute constare: omnia enim plerumque quae absunt vehementius hominum mentes perturbant.

Caesar idoneum locum nactus, quid quaque in parte geratur cognoscit, laborantibus auxilium submittit. Utrisque ad animum occurrit unum illud esse tempus quo maxime contendere conveniat. Galli, nisi perfregerint munitiones, de omni salute desperant: Romani, si rem obtinuerint, finem laborum omnium expectant. Maxime ad superiores munitiones laboratur, quo Vergasillaunum missum demonstravimus. Exiguum loci ad declivitatem fastigium magnum habet momentum. Alii tela conjiciunt; alii testudine facta subeunt; defatigatus in vicem integri succedunt. Agger ab universis in munitionem conjectus et ascensum dat Gallis et ea quae in terram occultaverant Romani contegit: nec jam arma nostris nec vires suppetunt.

¹ long poles, ² sheds.

2. Translate A or B.

A. Cicero, *pro Murena*, §§ 19-20. Comparison of the quaestorship of Servius and Murena.

Servius hic nobiscum hanc urbanam militiam respondendi, scribendi, cavendi, plenam sollicitudinis ac stomachi, secutus est: ius civile didicit: multum vigilavit, laboravit: praesto multis fuit: multorum stultitiam perpressus est, adrogantiam pertulit, difficultatem exsorbuit: vixit ad aliorum arbitrium, non ad suum. Magna laus et grata hominibus unum hominem elaborare in ea scientia, quae sit multis profutura. Quid Murena interea? Fortissimo et sapientissimo viro, summo imperatori legatus L. Lucullo fuit: qua in legatione duxit exercitum, signa contulit, manum conseruit, magnas copias hostium fudit, urbes partim vi, partim obsidione cepit, Asiam istam referatam et eandem delicatam sic obiit, ut in ea neque avaritiae neque luxuriae vestigium reliquerit: maximo in bello sic est versatus, ut hic multas res et magnas sine imperatore gesserit, nullam sine hoc imperator. Atque haec quamquam praesente L. Lucullo loquar, tamen ne ab ipso propter periculum nostrum concessam videamur habere licentiam fingendi, publicis litteris testata sunt omnia, quibus L. Lucullus tantum ei laudis impertiit, quantum neque ambitiosus imperator neque invidus tribuere alteri in communicanda gloria debuit.

B. Cicero, *pro Milone*, § 44-46. The movements of Clodius and Milo on the day of the murder of Clodius.

Vos ex M. Favonio audistis Clodium sibi dixisse et audistis vivo Clodio periturum Milonem triduo. Post diem tertium gesta res est quam dixerat. Cum ille non dubitarit aperire quid cogitaret, vos potestis dubitare quid fecerit? Quem ad modum igitur eum dies non fefellit? Dixi equidem modo. Dictatoris Lanuvini stata sacrificia nosse negotii nihil erat. Vidit necesse esse Miloni proficisci Lanuvium illo ipso quo est profectus die. Itaque antevertit. At quo die? quo, ut ante dixi, fuit insanissima contio ab ipsius mercenario tribuno plebis concitata: quem diem ille, quam contionem, quos clamores, nisi ad cogitatum facinus approperaret, numquam reliquisset. Ergo illi ne causa

quidem itineris, etiam causa manendi: Miloni manendi nulla facultas, exeundi non causa solum, sed etiam necessitas fuit. Quid? si, ut ille scivit, Milonem fore eo die in via, sic Clodium Milo ne suspicari quidem potuit? Primum quaero qui id scire potuerit? quod vos idem in Clodio quaerere non potestis. Ut enim neminem alium nisi T. Patinam, familiarissimum suum, rogasset, scire potuit illo ipso die Lanuvii a dictatore Milone prodi flaminem necesse esse. Sed erant permulti alii, ex quibus id facillime scire posset: omnes scilicet Lanuvini.

BRYN MAWR COLLEGE.

EXAMINATION FOR MATRICULATION.

LATIN. (*Counted as three sections.*)

THIRD SECTION: LATIN POETS

SPRING, 1897.—ONE AND THREE-QUARTER HOURS.

Candidates must take A and either B or C.

A.

1. Translate Ovid, *Metamm.*, XI., 419-443. Alcyone's speech to Ceyx.

ter conata loqui ter fletibus ora rigavit,
singultuque piis interrumpente querellas 420
' quae mea culpa tuam,' dixit ' carissime, mentem
vertit? ubi est, quae cura mei prior esse solebat?
iam potes Alcyone securus abesse relicta?
iam via longa placet? iam sum tibi carior absens?
at, puto, per terras iter est, tantumque dolebo, 425
non etiam metuam, curaeque timore carebunt.
aequora me terrent et ponti tristis imago.
et laceras nuper tabulas in litore vidi,
et saepe in tumulis sine corpore nomina legi.
neve tuum fallax animum fiducia tangat, 430
quod socer Hippotades tibi sit, qui carcere fortes
contineat ventos et, cum velit, aequora placet!
cum semel emissi tenuerunt aequora venti,
nil illis vetitum est incommendataque tellus
omnis et omne fretum. caeli quoque nubila vexant 435
excutiuntque feris rutilos concursibus ignes.
quo magis hos novi, (nam novi et saepe paterna
parva domo vidi) magis hoc reor esse timendos.
quod tua si flecti precibus sententia nullis,

care, potest, coniunx, nimiumque es certus eundi, 440
me quoque tolle simul. certe iactabimur una,
nec, nisi quae patiar, metuam: pariterque feremus,
quicquid erit, pariter super aequora lata feremur.

2. Explain the grammatical construction of *fletibus* (419), *singultu* (420), *timore* (426), *carcere* (431), *contineat* (432), *velit* (432), *conkursibus* (436), *domo* (438).

B.

1. Translate Vergil, *Aen.*, VII., 59–84. Portents given to King Latinus.

Laurus erat tecti medio in penetralibus altis,
Sacra comam, multosque metu servata per annos, 60
Quam pater inventam, primas cum conderet arces,
Ipse ferebatur Phoebos sacrasse Latinus,
Laurentisque ab ea nomen posuisse colonis.
Huius apes summum densae—mirabile dictu—
Stridore ingenti liquidum trans aethera vectae, 65
Obsedere apicem, et, pedibus per mutua nexis,
Examen subitum ramo frondente pependit.
Continuo vates, Externum cernimus, inquit,
Adventare virum, et partis petere agmen easdem
Partibus ex isdem, et summa dominarier arce. 70
Praeterea, castis adolet dum altaria taedis,
Et iuxta genitorem adstat Lavinia virgo,
Visa, nefas, longis comprehendere crinibus ignem,
Atque omnem ornatum flamma crepitante cremari,
Regalisque accensa comas, accensa coronam, 75
Insignem gemmis; tum fumida lumine fulvo
Involvi, ac totis Vulcanum spargere tectis.
Id vero horrendum ac visu mirabile ferri:
Namque fore inlustrem fama fatisque canebant
Ipsam, sed populo magnum portendere bellum, 80
At rex sollicitus monstris oracula Fauni,
Fatidici genitoris, adit, lucosque sub alta
Consulit Albunea, nemorum quae maxuma sacro
Fonte sonat, saevamque exhalat opaca mephitim.

2. Explain the grammatical construction of *metu* (60), *conderet* (61), *dictu* (64), *stridore* (65), *pedibus* (66), *ramo* (67), *arce* (70), *comas* (75), *gemma* (76), *fama* (79), *fonte* (84).

3. Scan vv. 80-84, naming the principal caesura in each.

C.

1. Translate Vergil, *Georg.*, II., 475-499. The study and love of nature.

Me vero primum dulces ante omnia Musae, 475
Quarum sacra fero ingenti percussus amore,
Accipiant, caelique vias et sidera monstrent,
Defectus solis varios, lunaeque labores,
Unde tremor terris, qua vi maria alta tumescant
Obiicibus ruptis rursusque in se ipsa residant, 480
Quid tantum Oceano properent se tinguere soles
Hiberni, vel quae tardis mora noctibus obstet.
Sin, has ne possim naturae accedere partis,
Frigidus obstiterit circum praecordia sanguis,
Rura mihi et rigui placeant in vallibus amnes; 485
Flumina amem silvasque inglorius. O, ubi campi
Spercheusque, et virginibus bacchata Lacaenis
Taygeta! o, qui me gelidis convallibus Haemi
Sistat, et ingenti ramorum protegat umbra!
Felix, qui potuit rerum cognoscere causas, 490
Atque metus omnis et inexorabile fatum
Subiecit pedibus strepitumque Acherontis avari!
Fortunatus et ille, deos qui novit agrestis,
Panaque Silvanumque senem Nymphasque sorores!
Illum non populi fasces, non purpura regum 495
Flexit et infidos agitans discordia fratres,
Aut coniurato descendens Dacus ab Histro,
Non res Romanae perituraque regna; neque ille
Aut doluit miserans inopem, aut invidit habenti.

2. Explain the grammatical construction of *amore* (476), *accipiant* (477), *Oceano* (481), *noctibus* (482), *possim* (483), *virginibus* (487), *convallibus* (488), *pedibus* (492), *habenti* (499).

3. Scan vv. 475-9, naming the principal caesura in each.

BRYN MAWR COLLEGE.

EXAMINATION FOR MATRICULATION.

HISTORY. (*Counted as one section.*)

SPRING, 1897.—TWO HOURS.

GREEK HISTORY.

1. Give the account of the social, family, and military life of the Spartans. What were the effects of such life upon the Spartan people? Define Peroeci, Crypteia.

2. Trace the route by which Xerxes entered Greece, and note the chief incidents of the march until the battle of Salamis was fought. How did the battle of Thermopylae affect Greece?

3. What was the extent of the Athenian Empire at the height of its greatness (458-445 B.C.)? Explain the work of the Dicasteries at this time.

4. What led the Athenians to undertake the expedition to Sicily (415 B.C.)? What part did Sparta take in the resistance against them?

5. Note the events leading to the battle of Chaeroneia. When was the battle fought, and what was the position of Greece after the battle?

ROMAN HISTORY.

1. Give the leading geographical features of the Italian peninsula; mention and locate the various peoples occupying the peninsula in the earliest period.

2. When did the Samnite wars take place? What territory was thereby added to Rome? Note the political

changes taking place in the relations between Patricians and Plebeians at the same time.

3. Discuss the legislation of Sulla. How did it affect senate, praetors, consuls, censors, and tribunes? What was Sulla's object in making the changes that he did?

4. Follow the steps in the rise of Pompey until the formation of the Second Triumvirate. Explain the character of this Triumvirate. How long did it hold together?

5. What territories did Augustus add to the Empire? Give an account of his efforts to extend the territory of the Empire along the German frontier.

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EXAMINATION FOR MATRICULATION.

HISTORY. (*Counted as one section.*)

SPRING, 1897.—Two Hours.

ENGLISH HISTORY.

1. Under what circumstances did Henry II. come to the throne of England? Explain the duties of the royal officers known as "itinerant justices."

2. Compare Simon de Montfort's parliament of 1265 with that of Edward I. of 1295. What is meant by "knights of the shire"?

3. Upon what grounds did Henry VII. base his claim to the crown of England? Explain his methods of gaining money, and mention any notable events of his reign.

4. What form did the government of England take from 1653 to 1660? Who was General Monk, and what had he to do with the restoration of Charles II.?

5. Answer any one of the three following questions:

What has been done in Queen Victoria's reign: (a) for the extension of the right to vote? (b) for the enlargement of the British Empire by the addition of colonial territory? (c) for the improvement of the condition of the people by the adoption of new inventions and the passing of measures of reform?

AMERICAN HISTORY.

1. Describe the form of government established by the charter of Connecticut. Who was Sir Edmund Andros, and what did he try to do?

2. In what various ways did Parliament try to tax the colonies between 1763 to 1775? Explain the writs of assistance, and show why they were necessary.

3. When and where did the convention meet that drafted the constitution of the United States? Compare the form of government established in that constitution with that which had existed under the Articles of Confederation.

4. What kind of a man was Andrew Jackson, and to what party did he belong? What important events took place during his administration?

5. What states seceded from the Union in 1861, and how did these states organize themselves as a government? Explain the importance of the battle of Gettysburg.

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EXAMINATION FOR MATRICULATION.

ENGLISH. (*Counted as one section.*)

I. GRAMMAR AND PUNCTUATION.

SPRING, 1897.—ONE AND A HALF HOURS.

Correct the following sentences, making the corrections as far as possible on the printed text :

1. Hardly a name in profane history is more august than Columbus, hardly one against whom graver charges may be brought. He might, like Las Casas did, have won converts to the fold of Christ by the kindness of his spirit: a legacy of devastation and crime was all that was left by him.

2. Flitting over rocks and skulking under logs, I caught sight of a winter wren. I need hardly say I hailed his appearance in this southern forest with delight, for everyone is glad to see a familiar face or hear a voice they recognize among strangers.

3. A Brooklyn librarian is indignant because American authors are not more "adulated." He exclaims nervously, "Some of our magazines will not buy a story except of a Scotchman or an Englishman, unless he is one of those rare Americans who have European endorsement, or who has fought his way to favour in spite of the publishers. We do not recall any demonstration in favour of Julian Hawthorne, Owen Wister, Marion Crawford, but we stand round and hurrah for Mr. Watson, Mr. Barrie, and Dr. Doyle."

4. I received numerous tokens of regard while I was in London from many philanthropic gentlemen, which I will never forget, and Lord Gray made a proposition to me which I would have been very glad to have accepted if circumstances had permitted, which was to go to India and superintend some great efforts made by the government to introduce the culture of cotton on the American plan.

5. Not only the authenticity and the trustworthiness of the chronicler's account of this visit has been questioned, of which only an Italian version is known, published in 1571, nearly a hundred years after the event, but the date assigned to the visit, 1477, is proved to be inconsistent with the known facts of Columbus' life.

6. Believing that there was rest for the weary, and in the ultimate reward of all holy endeavours in another world if not on earth, he said had made it possible for men to show as great zeal in an apparently hopeless cause, or even greater, than the worldly often showed in the practical affairs of this world.

7. Compared with Shakespeare, there is little doubt but that any reader will find Racine's tragedies artificial and unreal; but they must remember that they ought not to make the comparison with Shakespeare, who he never attempted to vie with, but rather with his fellow-countryman and fellow-dramatist, Corneille.

8. In Mr. Kipling's "Jungle Book," he shows more than in any of his works, the breadth of imagination and terseness and simplicity of style that has long made him one of the most popular of modern story-tellers.

9. In "Tristram and Iseult" neither Swinburne or Arnold have closely followed the original legend, that they found in Mallory's "Morte d'Arthur."

10. Probably we will be obliged to admit that the present situation in the East is very perplexing, even if we were to be ever so indignant at the attitude of the Powers.

11. We learn as we go to press from a friend in England that our remarks on snobs in last month's "Century" have created no little disturbance, and attracted much attention.

12. Mr. John Islip is dead at Pomona, Cal. When a lad of eighteen years he left New Bedford, Mass., in 1833, and went to California around the Horn, and his letters to his friends and relatives at home led Richard Henry Dana, who happened to be in New Bedford in the summer of 1836, to undertake a journey on a whaler to California, and subsequently to write "Two Years before the Mast."

Punctuate (on the printed text) the following passages:

This quality of Stevensons style is well illustrated by the following passage taken from the essay entitled Crabbed Youth and Age A child who had been remarkably fond of toys and in particular of lead soldiers found himself growing to the level of acknowledged boyhood without any abatement of this childish taste He was thirteen already he had been taunted for dallying overlong about the play-box he had to blush if he was found among his leaden soldiers the shades of the prison-house were closing about him with a vengeance There is nothing more difficult than to put the thoughts of children into the language of their elders but this is the effect of his meditations at this juncture Plainly he said I must give up my playthings in the meanwhile since I am not in a position to secure myself against idle jeers At the same time I am sure of three things that playthings are the very pick of life that all people give them up out of the same pusillanimous respect for those who are a little older and that if they do not return to them as soon as they can it is only because they grow stupid and forget I shall be wiser I shall conform for a little to the ways of their foolish world but so soon as I have made enough money I shall retire and shut myself up among my playthings until the day I die Nay as he was passing in the train along the Esterel mountains he remarked a pretty house in an orange garden at the angle of a bay and decided that this should be his Happy Valley Astrea Redux childhood was to come again The idea has an air of simple nobility to me not unworthy of Cincinnatus

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EXAMINATION FOR MATRICULATION.

ENGLISH. (*Counted as one section.*)

II. COMPOSITION.

SPRING, 1897.—TWO HOURS.

(a) Write a brief comparison of Coleridge and Wordsworth, based on the poems you have read of each, considering, for instance, the likenesses and differences between the two poets in the nature of the subjects chosen, in manner of treatment, and in style.

(b) What seem to you to be Burke's chief qualities as an orator, as shown in the speech on *Conciliation with America*.

(c) What seem to you to be Daniel Webster's chief qualities as an orator, as shown in the first *Bunker Hill Oration*?

Take either (a), (b), or (c).

The composition must contain not less than sixty lines of foolscap, and must be correct in spelling, grammar, punctuation, paragraphing, and general arrangement.

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EXAMINATION FOR MATRICULATION.

SCIENCE. (*Counted as one section.*)

SPRING, 1897.—Two Hours.

BOTANY.

1. In what four groups may all the parts of higher plants be arranged? What is the function of each?
2. What are fibro-vascular bundles? In what two ways are they arranged in the stems of flowering plants? What are their uses?
3. Explain the difference between a *seed* and a *spore*.
4. What is a fungus? How does it differ in mode of nutrition from an ordinary plant?
5. What part is played by sunlight in the lives of plants? Are any plants independent of sunlight?
6. Of what class of fruits is the blackberry an example? From what parts of the flower is the fruit developed?
7. What are the parts of a typical cell?

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EXAMINATION FOR MATRICULATION.

SCIENCE. (*Counted as one section.*)

SPRING, 1897.—TWO HOURS.

PHYSIOLOGY.

[*Number each sheet and mark it with your initials ; note also where the examination is taken.*]

1. Give a brief description of the following structures, but only enough to make it clear that you know what you are writing about, and indicate what seems to you the chief *function* of each:

Esophagus; Portal vein; Retina; Spleen; Duodenum; Urethra; Trachea; Pleura; Patella; Medulla oblongata; Pharynx; Pelvis; Middle Ear; Cerebrum; Mitral Valve; Dentine; Cornea; Diaphragm; Blind Spot.

2. Give a general account of the processes in digestion.

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EXAMINATION FOR MATRICULATION.

SCIENCE. (*Counted as one section.*)

SPRING, 1897.—TWO HOURS.

PHYSICAL GEOGRAPHY.

1. Discuss the nebular hypothesis; the relation of the earth to the other planets, and to the sun. Describe fully, with diagram, the effects resulting from the latter relations.

2. Discuss the atmosphere; its origin, composition, pressure, height, offices, and probable future.

3. Discuss the movements of the atmosphere; their classification and causes, relation of winds and pressure.

4. Discuss the moisture of the atmosphere; distinguish between absolute and relative humidity. Explain the measurement of moisture; the formation of dew, frost, and clouds. What are the conditions favorable for evaporation?

5. Discuss in detail the heat of the atmosphere; its source, nature, diurnal variations, seasonal variations, distribution and measurement; the relation of isotherms to parallels. What are isobars?

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EXAMINATION FOR MATRICULATION.

SCIENCE. (*Counted as one section.*)

SPRING, 1897.—TWO HOURS.

PHYSICS.

1. Upon what does the pressure on the bottom of a vessel filled with liquid depend? Also explain why the surface of the liquid, if at rest, is level.

2. What data are necessary to define a force? What law of motion tells us how to measure forces? Explain fully this law. Why does a falling body move with a uniformly increasing velocity? Through what distance will it fall in a time t ?

3. What is the kinetic theory of gases? Account for the pressure of a gas. What simple laws do gases obey?

4. What is a simple voltaic cell? Explain what is meant by "polarization." If there is a galvanometer and an electric motor in circuit with the cell, point out some of the transformations of energy taking place.

5. What is electrolysis and what laws does it obey? Describe some commercial application of it.

6. Explain the action of a siren in producing a sound. How can you use it to find the pitch of a given sound?

7. Describe an instrument for comparing the intensities of two lights, and the principle upon which it is based.

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EXAMINATION FOR MATRICULATION.

SCIENCE. (*Counted as one section.*)

SPRING, 1897.—TWO HOURS.

CHEMISTRY.

1. What is the composition of water and how may it be determined?
2. How are oxygen and hydrogen prepared, and how do they differ in properties?
3. Is the air a compound or a mixture, and what action do animals and plants have upon it?
4. Explain what happens when a candle burns.
5. What are the chief properties of carbon dioxide?
6. How may nitrogen be obtained from the air?
7. What are the laws of definite and multiple proportions?
8. Describe the method of making chlorine, and give its chief properties.
9. What chemical changes take place when sulphuric acid acts upon salt?
10. How many pounds of sodium are contained in 10 pounds of rock salt? ($\text{Na} = 23.$ $\text{Cl} = 35.5.$)

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EXAMINATION FOR MATRICULATION.

GREEK. (*Counted as three sections.*)

FIRST SECTION : GRAMMAR AND COMPOSITION.

SPRING, 1897.

(*One hour if all three sections are taken; one and a half hours if one or two sections are taken.*)

1. In the first prose passage give the principal parts of *πυρθάνεσθαι, ἐκλέξας, παραβαλῶν, εἰσθέμενοι*. Decline *ἐπιβάτας, ναῦν, πέλαγος*. Inflect *πλεούσας* in the present indicative. Why is *εἶη* optative? Explain the difference in case between *τὴν μὲν ἡμέραν* and *πέμπτη ἡμέρα*.

2. Translate into Greek: When the Turks (*Τούρκοι*) attacked the Greeks in the last war, the latter were once encamped in a small village near the Peneios river. Fearing lest they should be encircled on both sides, the commander-in-chief of the Greek forces ordered the captains to summon their soldiers, in order that he might address them. "Greeks," he said, "let us rather die than be conquered."

3. Give the Attic for the Homeric forms in the first five lines from the *Iliad*. Scan the first three lines.

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EXAMINATION FOR MATRICULATION.

GREEK. (*Counted as three sections.*)

SECOND SECTION: PROSE AUTHORS.

SPRING, 1897.

(*One hour if all three sections are taken; one and a half hours if only one or two sections are taken.*)

I. Translate:

ὁ δὲ Κόνων ἐπεὶ ἐπολιορχεῖτο καὶ κατὰ γῆν καὶ κατὰ θάλατταν, καὶ σίτων οὐδαμόθεν ἦν εὐπορῆσαι, οἱ δὲ ἄνθρωποι πολλοὶ ἐν τῇ πόλει ἦσαν καὶ οἱ Ἀθηναῖοι οὐκ ἐβοήθουν διὰ τὸ μὴ πυρθάνεσθαι ταῦτα, καθελύσας τῶν νεῶν τὰς ἄριστα πλεούσας δύο ἐπλήρωσε πρὸ ἡμέρας, ἐξ ἀπασῶν τῶν νεῶν τοὺς ἀρίστους ἐρέτας ἐκλέξας καὶ τοὺς ἐπιβάτας εἰς κοίλην ναῦν μεταβιβάσας καὶ τὰ παραρύματα παραβαλὼν. τὴν μὲν οὖν ἡμέραν οὕτως ἀνεῖχον, εἰς δὲ τὴν ἑσπέραν, ἐπεὶ σκότος εἶη, ἐξεβίβαζεν, ὡς μὴ καταδήλους εἶναι τοῖς πολεμίοις ταῦτα ποιῶντας. πέμπτη δὲ ἡμέρα εἰσθήμενοι σῖτα μέτρια, ἐπειδὴ ἤδη μέσον ἡμέρας ἦν καὶ οἱ ἐφορμοῦντες ὀλιγώρως εἶχον καὶ ἔνιοι ἀνεπαύοντο, ἐξέπλευσαν ἔξω τοῦ λιμένος, καὶ ἡ μὲν ἐπὶ Ἐλλησπόντου ὤρμησεν, ἡ δὲ εἰς τὸ πέλαγος.

παραρύματα curtains

II. Translate:

Τῇ δὲ ὑστεραία προσῆγον αὐτοὺς εἰς τὸ στράτευμα· καὶ ἔδοξε τοῖς στρατιώταις μήτε ἀδικεῖν Παφλαγόνας μήτε ἀδικεῖσθαι. μετὰ τοῦτο οἱ μὲν πρέσβεις ὤχοντο. οἱ δὲ Ἕλληνες, ἐπειδὴ πλοῖα ἱκανὰ ἐδόκει παρεῖναι, ἀναβάντες ἔπλεον ἡμέραν καὶ νύκτα πνεύματι καλῶ ἐν ἀριστερᾷ ἔχοντες τὴν Παφλαγονίαν. τῇ δ' ἄλλη ἀφικνοῦνται εἰς Σινώπην καὶ ὠρμίσαντο εἰς Ἀρμήνην τῆς Σινώπης. Σινωπεῖς δὲ οἰκοῦσι μὲν ἐν τῇ Παφλαγονικῇ, Μιλησίων δὲ ἄποικοί εἰσιν. οὗτοι δὲ ξένια πέμπουσι τοῖς Ἕλλησιν ἀλφίτων μὲν μεδίμνους τρισχιλίους, οἴνου δὲ κεράμια χίλια καὶ πενταχόσια· καὶ Χειρίσοφος ἐνταῦθα ἦλθε τριήρη ἔχων. καὶ οἱ μὲν στρατιῶται προσεδόχων ἄγοντά τι σφίσιν ἤκειν· ὁ δ' ἤγε μὲν οὐδέν, ἀπήγγελλε δὲ ὅτι ἐπαινοίη αὐτοὺς καὶ Ἀναξίβιος ὁ ναύαρχος καὶ οἱ ἄλλοι, καὶ ὅτι ὑπισχεῖτο Ἀναξίβιος, εἰ ἀφίκοιντο ἔξω τοῦ Πόντου, μισθοφορὰν αὐτοῖς ἔσεσθαι.

κεράμια jars

BRYN MAWR COLLEGE.

EXAMINATION FOR MATRICULATION.

GREEK. (*Counted as three sections.*)

THIRD SECTION: HOMER.

SPRING, 1897.

(*One hour if all three sections are taken ; one and a half hours if only one or two sections are taken.*)

I. Translate :

ἀλλ' ἀκέουσα κάθησο, ἐμῶ δ' ἐπιπείθεο μύθῳ,
μή νύ τοι οὐδ' χραίσμωσιν, ὅσοι θεοὶ εἰς' ἐν Ὀλύμπῳ,
ἄσπονδον ἰόνθ', ὅτε κέν τοι ἀάπτους χεῖρας ἐφείω.

ὣς ἔφατ', ἔδεισεν δὲ βοῶπις πότνια Ἥρη,
καί ῥ' ἀκέουσα καθῆστο, ἐπιγνάμψασα φίλον κῆρ.
ᾤχθησαν δ' ἀνά δῶμα Διὸς θεοὶ Οὐρανίῳνες·
τοῖσιν δ' Ἥφαιστος κλυτοτέχνης ἦρχ' ἀγορεύειν,
μητρὶ φίλῃ ἐπὶ ἧρα φέρων, λευκωλένῳ Ἥρῃ·
“ ἦ δὴ λοίγια ἔργα τάδ' ἔσσεται οὐδ' ἔτ' ἀνεκτά,
εἰ δὴ σφῶν ἕνεκα θνητῶν ἐριδαίνετον ᾧδε,
ἐν δὲ θεοῖσι κολῶν ἐλαύνετον· οὐδέ τι δαιτὸς
ἔσθλης ἔσσεται ἦδος, ἐπεὶ τὰ χερσεῖα νικᾷ.
μητρὶ δ' ἐγὼ παράφημι, καὶ αὐτῇ περ νοεούσῃ,
πατρὶ φίλῳ ἐπὶ ἧρα φέρειν Δί, ὄφρα μὴ αὖτε
νεικείῃσι πατήρ, σὺν δ' ἡμῖν δαῖτα ταραξῆ.
εἴ περ γάρ κ' ἐθέλησιν Ὀλύμπιος ἀστεροπητῆς
ἔξ ἐδέων στυφελίζαι· ὁ γὰρ πολὺ φέρτατός ἐστιν.

II. Translate:

την δ' ημεῖς ἐπειτα μέγας κορυβαίολος "Εκτωρ."
"μή με κἀθίς", Ελένη, φιλέουσα περ' οὐδέ με πείσεις.
ἦδη γάρ μοι θυμὸς ἐπέσσεται, ὄφρ' ἐπαύθω
Τρωεσσά, οἳ μὲν' ἐμείο ποδῆν ἀπεθῶτος ἔχουσιν.
ἀλλὰ σὺ γ' ὄρνυθι τούτων, ἐπειρέσθω δὲ καὶ αὐτός,
ὡς κεν εἴμ' ἐντασθῆεν πόλιος καταμάψῃ ἔοντα.
καὶ γὰρ ἐγὼν οἰκόνδ' ἐσελεύσομαι, ὄφρα ἴδωμαι
οἰκῆσας ἀλοχὸν τε φίλην καὶ νῆπιον υἱόν.
οὐ γὰρ τ' οἶδ', ἢ ἔτι σφιν ὑπότροπος ἴσθαι αὐτίς,
ἢ ἦδη μὲν ὑπὸ χερσὶ θεοῖ δαμάσων' Ἀχαιῶν."
ὡς ἄρα φωνήσας ἀπέβη κορυβαίολος "Εκτωρ.
αἴψα δ' ἔπειθ' ἵκανε δόμους ἐν ναεστάοντας,
οὐδ' εὖρ' Ἀνδρομαχὴν λευκώλενον ἐν μεγάροισιν,
ἀλλ' ἢ γε εὖν παῖδι καὶ ἀμφιπόδῳ ἐυπέπλῳ
πύργῳ ἐφαστήκει γούωσα τε μυρομένη τε.

BRYN MAWR COLLEGE.

EXAMINATION FOR MATRICULATION.

FRENCH. (*Counted as three sections.*)

SPRING, 1897.—THREE HOURS.

I. GRAMMAR.

1. Put the following French sentence : *Je lui montre un livre,*

(1) in a plural form (putting subject, object, direct and indirect, and verb in the plural).

(2) in an interrogative form.

(3) in a negative form.

(4) in an imperative form (i.e., using the imperative mood).

(5) in an imperative negative form (i.e., using the imperative mode with a negation).

(6) replace the present tense *montre* by the perfect tense *ai montré* and give the sentence thus changed (a) in interrogative form, (b) in negative form.

2. Conjugate in full the present indicative of *faire, dire, savoir, devoir, valoir, décevoir.*

3. Give the first person, singular and plural, of the preterite of *abstenir, boire, joindre, cuire, devoir, écrire, fuir lire, mouvoir, naître, percevoir.*

4. Give the first person singular and plural of the subjunctive of *commettre, paraître, conquérir, coudre, moudre, dissoudre, prescrire.*

5. Give the first person singular of the future of *aller, percevoir, savoir, couvrir, plaire, valoir, secourir, voir.*

6. Conjugate in full the imperative of résoudre, taire, convenir, se réunir, consentir, vouloir, dire, élire, soumettre, s'endormir, poursuivre, sortir, boire, joindre.

(Each candidate will be required to pronounce some ten or fifteen lines of French to show her accurate knowledge of French sounds. This is an integral part of the examination.)

II. TRANSLATION.

Je savais que, vivant au milieu des hommes, et d'hommes tous plus puissants que moi, je ne pouvais jamais, de quelque façon que je m'y pris, me mettre à l'abri du mal qu'ils voudraient me faire. Il n'y avait qu'une chose en cela qui dépendît de moi, c'était de faire en sorte au moins que, quand ils m'en voudraient faire, ils ne le pussent qu'injustement.

J'avais une demeure isolée, dans une solitude charmante ; maître chez moi, j'y pouvais vivre à ma mode, sans que personne eût à m'y contrôler. Mais cette habitation m'imposait des devoirs doux à remplir, mais indispensables. Toute ma liberté n'était que précaire ; plus asservi que par des ordres, je devais l'être par ma volonté : je n'avais pas un seul jour dont en me levant je pusse dire : " J'emploierai ce jour comme il me plaira." La distance où j'étais de Paris n'empêchait pas qu'il ne me vînt journellement des tas de désœuvrés qui, ne sachant que faire de leur temps, prodiguaient le mien sans aucun scrupule. Quand j'y pensais le moins, j'étais impitoyablement assailli, et rarement j'ai fait un joli projet pour ma journée, sans le voir renverser par quelque arrivant.

III.

C'était par un jour d'hiver semblable à celui-ci qu'on avait accueilli dans la maison communale sa mère mourante, qui la portait dans ses bras. Le seul mot que la malheureuse avait su prononcer était un nom : Mélie. Était-ce le sien ou celui de la petite fille, alors âgée de trois ans ? A qui cela importait-il ? L'enfant fut nommée Mélie ; on enterra la mère, et tout fut dit.

Le vieux Jacques, qui n'était pas jeune alors, avait ram-

assé vers sept ans cette petite créature, jusque-là un peu nourrie par tous, et il l'avait promue au grade de servante.

Servante, pour une enfant qui n'était qu'une mendiante ! Il y avait là un changement de position sociale, et Mélie sut gré au vieillard de l'avoir élevée à cette dignité. Toute petite, mais déjà intelligente et docile, elle l'avait servi dans la mesure de ses forces enfantines, souvent au delà, — ne réclamant d'autre salaire que son pain quotidien.

Le vieillard était rude et grossier, et souvent il parlait plus fort qu'il n'eût fallu ; cependant jamais il n'avait frappé l'orpheline, retenu peut-être par un vague respect de ce malheur qui n'avait aucune protection.

Le vie de Mélie s'était écoulée dans cette cabane, entre les vaches et les poules, sans joies, sans espérances, sans rêves d'avenir. Que pouvait-elle rêver ?

Le jeune Bertrand, témoin assidu de ces jeux guerriers, brûlait d'y prendre part ; mais l'équipement d'un jeune gentilhomme, varlet ou écuyer, coûtait fort cher, et le bien de son père était fort médiocre : le sire de du Guesclin jugeait son fils trop jeune encore pour qu'il fût nécessaire de lui donner l'équipage convenable à son rang. Bertrand assistait donc en simple spectateur à ces fêtes : il se lamentait en se voyant si mal monté, si pauvrement vêtu, et soupirait aussi bien tristement en songeant à la fâcheuse irrégularité de ses traits. " Hélas " se disait-il, " je suis si laid que jamais je ne serai aimé ni convié par les belles et nobles dames, " et c'était pour lui un nouveau motif d'aspirer à la gloire.

Cette baraque n'était qu'un campement de carriers ; mais elle eût pu braver un siège quant aux murailles, formées de blocs entaillés de manière à présenter des parois à peu près lisses à l'intérieur. La toiture était faite d'un long bloc effrayant à voir, mais si bien posé en équilibre, qu'il ne pouvait tomber ; et, comme il était trop près du sol pour qu'on pût se tenir debout dans l'habitation qu'il couvrait, on avait creusé plus bas dans l'épaisseur du sable. C'était donc très propre et

assez sain, pour peu qu'on entretînt les rigoles pour empêcher
l'eau pluviale de s'y engouffrer.

Les grands, pour le plupart, sont masques de théâtre;
Leur apparence impose au vulgaire idolâtre.
L'âne n'en sait juger que par ce qu'il en voit :
Le renard, au contraire, à fond les examine,
Les tourne de tout sens : et, quand il s'aperçoit
 Que leur fait n'est que bonne mine,
Il leur applique un mot qu'un buste de héros
 Lui fit dire fort à propos.
C'était un buste creux, et plus grand que nature.
Le renard, en louant l'effort de la sculpture :
Belle tête, dit-il; mais de cervelle point"
Combien de grands seigneurs sont bustes en ce point.

BRYN MAWR COLLEGE.

EXAMINATION FOR MATRICULATION.

GERMAN. (*Counted as three sections.*)

SPRING, 1897.—THREE HOURS.

I. GRAMMAR.

1. Give (together with the article) the genitive singular and the nominative plural of the nouns:

Feld (n.)	Name (m.)
Geist (m.)	Ohr (n.)
Hirt (m.)	Staat (m.)
Magd (f.)	Stadt (f.)
Messer (n.)	Stätte (f.)
Nagel (m.)	Tag (m.)

2. Decline "die grüne Insel" and "eine grüne Insel."

3. Give in the third person singular (1) the present indicative, (2) the preterit, (3) the preterit subjunctive, and (4) the past participle of the following verbs:

aufwachsen	rinnen
ausbitten	überschreiten
befehlen	verheissen
erlangen	vorziehen
fehlen	wissen
rennen	zurückgehen

II. TRANSLATION.

Translate the following passages, leaving blank spaces for the words you do not remember:

1.

Wie ich noch immer so dasitze, höre ich auf einmal aus der Ferne Hufschlag im Walde. Ich hielt den Atem an und lauschte, da kam es immer näher und näher, und ich konnte schon die Pferde schnauben hören. Bald darauf kamen auch wirklich zwei Reiter unter den Bäumen hervor, hielten aber am Saume des Waldes an und sprachen heimlich sehr eifrig miteinander, wie ich an den Schatten sehen konnte, die plötzlich über den mondbeglänzten Platz vorschossen, und mit langen dunklen Armen bald dahin bald dorthin wiesen.—Wie oft, wenn mir zu Hause meine verstorbene Mutter von wilden Wäldern und martialischen Räubern erzählte, hatte ich mir sonst immer heimlich gewünscht, eine solche Geschichte selbst zu erleben. Da hatt' ichs nun auf einmal für meine dummen frevelmütigen Gedanken!—Ich streckte mich nun an dem Lindenbaum, unter dem ich gesessen, ganz unmerklich so lang aus, als ich nur konnte, bis ich den ersten Ast erreicht hatte und mich geschwinde hinaufschwang. Aber ich baumelte noch mit halbem Leibe über dem Aste und wollte soeben auch meine Beine nachholen, als der eine von den Reitern rasch hinter mir über den Platz dahertrabte. Ich drückte nun die Augen fest zu in dem dunkeln Laube und rührte und regte mich nicht.—“Wer ist da?” rief es auf einmal dicht hinter mir. “Niemand!” schrie ich aus Leibeskräften vor Schreck, dass er mich doch noch erwischt.

(v. Eichendorff.)

2.

Schweigsame Menschen, falls man sie nicht für stumpfsinnig oder beschränkt halten darf, unwittert ja immer der Duft einer gewissen Vornehmheit selbst dann, wenn sie auf einer niederen Gesellschaftsstufe stehen, ja in diesem Falle vielleicht um so mehr, als wir gewohnt sind, dass der Schwache, der Abhängige, zum mindesten über seine wirklichen oder vermeintlichen Leiden, redselig ist wie die Kinder. Und Konrad war die Schweigsamkeit selbst. Auch dann, wenn er zum Sprechen gezwungen war, that er es mit möglichst wenigen Worten, und konnte

[OVER]

eine Geberde es thun, öffnete er gewiss nicht den Mund. So hatte es einen merkwürdigen Eindruck auf mich gemacht, dass er, als ich ihm nach seiner Genesung zum ersten Male wieder begegnete und ihn freundlich anredete, er statt aller Erwiderung nach meiner Hand griff und dieselbe küsste, und als ich weiter frug, ob ich ihm sonst noch helfen könne, nur sagte: Ich danke, ich habe ja Arbeit. Und das war bei ihm keine Phrase. Wenn es sonst das Erbübel der Dienstleute ist, in allen Nöten sofort an die Mildthätigkeit der Herrschaft zu appelliren, ohne oft auch nur den Versuch zu machen, wie weit sie mit den eigenen Kräften und Mitteln reichen, so schien dieser Mann nur alles sich selbst, anderen nichts verdanken zu wollen. Mein Gatte hatte ihn, da er, als er zu uns kam, selbst des Notwendigen ermangelte, selbstverständlich mit Kleidung und Wäsche ausgestattet, aber er bestand darauf, dies nur als einen Vorschuss zu betrachten, den er abzarbeiten habe, und er ruhte nicht eher, als bis dies wirklich geschehen war.

(*Spielhagen.*)

3.

Die Zeiten, in denen Dante lebte, waren die, als nach dem Sturze der Hohenstaufen, welche zuletzt die Idee des die ganze Erde umfassenden Kaiserreiches aufrecht erhielten, sich kein Arm mehr fand, um mit dem Schwerte des Reiches in der Faust dafür kämpfen zu wollen.

Aber der Gedanke bestand fort, er war zu tief eingewurzelt. Wie heute noch ein ächter Katholik, und wenn er niemals etwas mit Rom zu thun gehabt, nur die eine unteilbare Kirche kennt mit ihrer unvergänglichen Spitze, dem römischen Papste, so erblickte damals die gesammte Menschheit, als Staatsorganismus aufgefasst, ihre Spitze im römischen Kaiser, mochte nun einer vorhanden sein oder nicht, und selbst diejenigen erkannten den Kaiser als von Gott eingesetzte Obrigkeit an, die sich nichts von ihm befehlen lassen wollten. Man opponirte, aber man leugnete nicht.

Die Menschen sassen zu fest alle noch an der Stelle, wo

sie geboren waren, und in den Glaubensartikeln, die ihre Väter ihnen vererbten, als dass eine in den Geistern haftende Anschauung, wie die vom Kaisertume, an Kraft hätte verlieren können. Jahrhunderte lang bestand sie fort, als das alte Wesen des römischen Reiches längst zu einer dunklen Ahnung nur herabgesunken war.

(*H. Grimm.*)

4. HEIMAT.

Ich bin hinauf, hinab gezogen,
Und suchte Glück und sucht' es weit,
Es hat mein Suchen mich betrogen
Und was ich fand war Einsamkeit.

Ich hörte, wie das Leben lärmte,
Ich sah sein tausendfarbig Licht,
Es war kein Licht das mich erwärmte
Und ächtes Leben war es nicht.

Und endlich bin ich heimgegangen
Zu alter Stell' und alter Lieb'
Und von mir ab fiel das Verlangen,
Das einst mich in die Ferne trieb.

Die Welt, die fremde, lohnt mit Kränkung
Was sich, umwerbend, ihr gesellt;
Das Haus, die Heimat, die Beschränkung,
Die sind das Glück und sind die Welt.

(*Fontane.*)

BRYN MAWR COLLEGE.

EXAMINATION FOR ADVANCED STANDING.

SOLID GEOMETRY.

SPRING, 1897.—TWO HOURS.

[When this paper is taken with Trigonometry, one and a half hours is the time allowed; questions 1 and 6 are then to be omitted, and the reason for this omission is to be stated.]

1. Prove that through three given points, not in the same straight line, one plane and only one plane can be drawn.

2. Prove that if a straight line is parallel to a line in a given plane, either it is parallel to that plane or it lies in that plane.

3. Prove that the sum of the face angles of any convex polyhedral angle is less than four right angles. Point out exactly where the proof would fail if the polyhedral angle were not convex.

4. Give and prove the relation connecting the numbers of edges, faces, and vertices of a polyhedron. Apply this to determine the nature of a regular polyhedron whose faces are pentagons.

5. Determine the volume of a frustum of a triangular pyramid in terms of its altitude and the areas of its bases. Determine the volume of the frustum of a cone in terms of the altitude h and the radii a , b , of the circular ends.

6. Prove that every plane section of a sphere is a circle, and determine when the section is greatest.

7. Give and prove the expression for the surface of a sphere.

Give (without proof) the expression for the volume in terms of the surface and the radius.

8. Explain what is meant by symmetric spherical triangles. Prove that a spherical triangle is equal to its symmetric spherical triangle.

BRYN MAWR COLLEGE.

EXAMINATION FOR ADVANCED STANDING.

TRIGONOMETRY.

SPRING, 1897.—TWO HOURS.

(When this paper is taken with Solid Geometry, one and a half hours is the time allowed; questions 1 and 4 are then to be omitted and the reason for the omission is to be stated.)

1. Prove that the radian = $57^{\circ} 17' 44.8''$ nearly.

$$\left[\text{use } \pi = \frac{355}{113} \right]$$

Prove that

$$\sec^2 A + \operatorname{cosec}^2 A + \sin^2 A = 1 + (\tan A + \cot A)^2 - \cos^2 A.$$

2. Find the trigonometric ratios of 120° , 315° . The Sine of a certain angle is $\frac{2}{7}$; find all the other trigonometric ratios.

3. Prove that

$$\cos 2A - \cos 2B = 2(\sin^2 B - \sin^2 A).$$

State, without proof, the formula for $\cos(A + B)$ and use it to find the value of $\cos(270^{\circ} + A)$. Deduce the value of $\sin(270^{\circ} + A)$.

4. Prove that

$$(i.) \quad \tan 2A = \frac{2 \tan A}{1 - \tan^2 A},$$

$$(ii.) \quad \tan 3A = \frac{3 \tan A - \tan^3 A}{1 - 3 \tan^2 A}.$$

[OVER]

5. Prove that

(i.)

$$\sin A = \frac{2 \tan \frac{A}{2}}{1 + \tan^2 \frac{A}{2}}$$

(ii.) $4 \sin A \sin (60^\circ + A) \cos (30^\circ + A) = \sin 3A$

6. The sides of a triangle are 18, 19, 23 feet respectively find the angle opposite the greatest side, given that

$$\log 2 = .3010, \log 11 = 1.0414, \log 7 = .8451,$$

$$L. \tan 38^\circ .24' = 9.8990.$$

7. Show how to solve a triangle given two sides b and c and the angle B opposite to one of them.

Illustrate your answer by a diagram