## GEOMETRY.

1. 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.

2. 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 to the vertical angle will bisect it.

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

4. About a given circle to describe a triangle, equiangular to a given triangle.

5. If an angle of a triangle be bisected by a straight line, which likewise cuts the base, the rectangle, contained by the sides of the triangle is equal to the rectangle, contained by the segments of the base, together with the square on the line bisecting the angle.

6. If two straight lines be at right angles to the same plane, they must be parallel to one another.

7. A chord in a circle is a mean proportional between the diameter and the part of the diameter cut off between one extremity of the chord and a perpendicular drawn from the other extremity to the diameter.

## ALGEBRA.

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

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

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

3. A and B run 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?

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

5. Divide a given number $2a$ into two parts, such that their product shall have the greatest possible value.

6. Given that $y$ varies as the sum of two quantities, one of which varies as $x$ directly, the other as $x$ inversely, and that $y=5$, when $x=2$, find the equation between $x$ and $y$.

## LATIN COMPOSITION.

*(A lexicon may be used but no other book.)*

Translate into Latin:

1. Themistocles, commander in the Persian war, delivered Greece from bondage.

2. Demosthenes is said to have been by far the most eloquent of Athenian orators.

3. The brave old man, as he fell with his breast pierced by an arrow, cried out that he was dying for his country.

4. I persuaded him that these things were true, but I could not persuade him to abandon his undertaking.

5. I could not have prevented him if I would, and I would not if I could.

6. "Breathes there a man with soul so dead,
Who never to himself hath said,
'This is my own, my native land?'"

## ROMAN HISTORY.

1. Write a note on the early inhabitants of Italy.

2. *Comitia Curiata, Comitia Centuriata, Comitia Tributa:* Explain the composition and functions of each.

3. Briefly describe the Samnite wars.

4. Sketch the character and career of Cato.

5. Give an account of the First and Second Triumvirates.

6. Describe the *assassination, will,* and *funeral* of Julius Cæsar.

## GREEK COMPOSITION.

*(A lexicon may be used but no other book).*

Translate into Greek:—

1. The enemies were drawing near, in order that they might set free the captives.

2. "Tis only noble to be good."

3. On account of the murder of his mother, Orestes was pursued by the Furies.

4. Of the seven islands, Sicily is the largest, Lesbos the smallest.

5. Certain animals are produced which live only one day.

6. If I had done this, the judge would have sentenced me to death as quickly as possible.

## GREEK HISTORY.

1. Give the substance of the Greek legends accounting for the origin of the race and of its principal divisions.

2. *Greek Colonies:* (a), Classify geographically; (b), why is a knowledge of them important?; (c), What is meant by *Magna Gracia,* and what were its chief cities?

3. Describe the situation of Athens, naming the chief public buildings, and giving a brief sketch of Attic Art as exhibited in the age of Pericles.

4. Explain the following: *Ostracism ;Mutilation of the Hermae, Amphictyonic Council;* the *Philippics*; the *Peripatetics.*

5. Write as full a note as possible on Athenian oratory and orators.

# FIRST-CLASS LICENSES. (Grade B.)

## BRITISH HISTORY.

1. Briefly trace events from the death of Edward the Confessor to the Battle of Hastings, giving necessary explanations in connection with the more important names introduced.

2. Discuss the claims of the Houses of York and Lancaster *with reference to priority of descent.*

3. *The Long Parliament;* when and by whom summoned;. chief measures; when and by whom dissolved?

4. Write short notes on the rise and fall of Puritanism; the Bloody Assize; the Berlin Decrees; Catholic Emancipation; Anticorn-law League.

5. Mention the chief measures and events of the Beaconsfield Administration, and discuss one of them.

6. Discuss Parliamentary Government as prevailing during the Plantagenet, Tudor, and Stuart periods respectively.

## BRITISH AMERICAN HISTORY.

1. Mention the most important treaties which have affected British North America, giving dates and terms.

2. Write notes on *Frontenac* and *Laval.*

3. Relate the history of Fort Beausejour.

4. What is meant by the "Rebellion Losses Act?" Describe the results.

5. Name in chronological order the Governors-General of the Dominion.

6. How are appointments made to the following offices:— of Governor-General, Lieutenant-Governor, Judge of the Supreme Court, Judge of the County Court, Senator, Justice of the Peace, Inspector of Schools?

## GENERAL GEOGRAPHY.

1. Explain the cause of the spheroidal form of the earth, and also the cause of its annual motion.

2. Describe the composition of the earth's crust, and name the most important plants of each vegetable zone.

3. Name the chief foreign possession of European powers.

4. Locate, and name any important fact concerning the following: Congo, Parnassus, Titicaca, Yosemite, Hedjaz, Bencoolen, Azores, and state in which hemisphere is each of the following: New Zealand, New Hebrides, Iceland, Cape Verd Isles, Tasmania.

5. Name the principal rivers of Spain, their direction, and the waters into which they flow; also the chief towns, their situation, and for what noted.

6. Name the *ten* largest cities of the British Empire in the order of their population, and also the seats of the principal manufactures in the British Isles.

## BRITISH AMERICAN GEOGRAPHY.

1. Name the counties of Ontario bordering on Lake Huron, with their capitals.

2. Write a note on the river St. John, naming its tributaries and the principal places on its banks.

3. Give the boundaries of British Columbia, and name its most important harbors, islands, rivers and products.

4. Name, in as great detail as possible, the rivers of the Maritime Provinces which flow into the Gulf of St. Lawrence and Northumberland Strait.

5. Draw an outline map of the Continent of North America, inserting the great Lakes and the rivers Mississippi (and Missouri) St. Lawrence, Saskatchewan and Nelson.