

THE ENTRANCE

FIFTH CLASS EDITION.

VOL. II, No. 18.]

TORONTO, JUNE 1, 1897.

[25 CENTS A YEAR.

The Diamond Jubilee.

The Minister of Education in a circular letter to inspectors, says:—"In order to make the occasion of Her Majesty's Diamond Jubilee profitable to the pupils attending the Public Schools, I would suggest that you direct the teachers of your inspectoral division to devote the Friday afternoon preceding the 21st of June to a consideration of the most notable events in Her Majesty's reign, particularly those bearing upon the progress made in science, invention, and education. In addition to this, the history of Canada in relation to the Empire might with great advantage be considered in brief addresses by trustees and others whose services would no doubt be available.

"I would also venture to suggest that a portrait of Her Majesty, appropriately framed, be placed in every school room in your division, that the memory of the Sovereign whose wisdom and virtues are recognized throughout the world, might be the more deeply impressed upon the pupils. Would you therefore kindly bring this subject to the notice of your teachers, either by circular, addressed to each individually, or, if there is still opportunity, by calling attention to it at the meeting of your institute in May.

"As subjects of that great Empire over which Her Majesty has reigned so long, we should endeavor to make the approaching festivities an occasion long to be remembered by those who before many years will be entrusted with the duties and responsibilities of citizenship."

We trust that teachers and pupils will endeavor to carry out the suggestion given by our Minister of Education. To assist them we have brought out special jubilee pictures of our Queen. One of them

is in tints, and measures 18x24; the other is in colors, and measures 20x34. Either of these is suitable for the schoolroom, the latter being a particularly fine picture. The prices, postpaid, are 25 and 50 cents respectively.

The War Closed.



According to the latest despatches the war between Greece and Turkey is at an end. The struggle was brief.

It began on April 17th. We have followed the events of the trouble as fully as space would permit. In our last issue we left the Greeks at Pharsalos expecting an attack from the enemy.

The Turks appeared before that place and after a short engagement the Greeks retreated farther south, taking up a position at Domokos, a place southwest of Pharsalos, where they made preparations to offer a strong resistance to the Turks. The Greeks at this stage agreed to accept the mediation of the powers with a view to closing the war, but the war indemnity demanded by the Turks was so large that Greece could not honorably entertain it and so hostilities continued. On Saturday, May 15th, Domokos fell and the Greek cause was practically lost. Through pressure brought to bear on the Sultan by the pow-

ers, he has agreed to an armistice, and the probabilities at the time of writing these lines all point to peace. It is believed that the Sultan will so moderate his demands for war indemnity that the rival nations themselves will be enabled to settle the matter. Turkey's terms of peace with Greece, as first announced, include the payment of an indemnity of £3,000,000, a rearrangement of the Greek frontier, the annulling of the treaties favoring the Greeks, the cession of the Greek fleet to Turkey and the

settlement of the Cretan question. No one, not even the Sultan himself, expects Greece to accept these terms. The powers will doubtless have considerable to say in the fixing of the indemnity. Space prevents us speaking further of the events of the war. The map which we publish will give our readers some help in understanding the movements of the contending armies.



MAP SHOWING TURKO-GRECIAN FRONTIER OPERATIONS

On the accompanying map the two dots near the centre indicate the position of Pharsalos and Domokos. On the east, what is marked as Bolos is really the city of Volo, situated on the gulf of that name. On the west there was severe fighting around Arta, in the province of Epirus.

ANSWERS.

(1) From the Baltic to Black Sea. Length about 1,000 miles; depth, 27 ft. (2) Peru. (3) The Eastern or New England States get their coal from Nova Scotia, Pennsylvania and West Virginia; the Pacific States, from British Columbia, Australia and Japan—chiefly from the first-mentioned. (4) The log of the *Mayflower* is an account of the first voyage of the Pilgrim Fathers, and a history of the Plymouth Plantation. The log of a ship usually contains a record of its speed and any matters of interest as they occur. (5) Menelik is a powerful king and rules over a country rich in ivory and gold. (6) President Kruger is endeavoring to negotiate a treaty with the Orange Free State, which England declares to be a violation of the treaty made between England and the Transvaal in 1884. By that treaty the Transvaal must not enter into treaties with foreign nations without England's consent. (7) Gomez. (8) The Ottawa. (9) Lake Erie is the shallowest of the great lakes. (10) Hon. Mr. Fielding. (11) Reduction of duties to countries favoring Canada in their tariff regulations. (12) This is the usual name of the British court; so-called from the old palace of St. James, which is still used for royal receptions, levees, and drawing rooms. (13) The Pribilof Islands in the Behring Sea are the most noted places in the world for the capture of the fur seal.

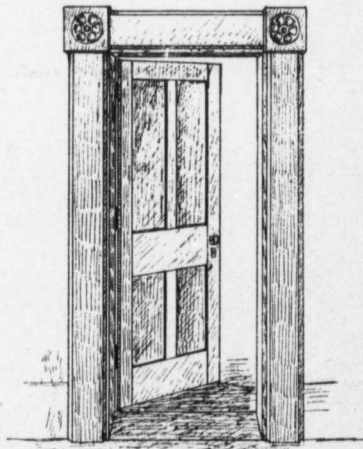
ANSWERED IN OUR NEXT ISSUE.

1. What European country and Brazil have referred their boundary line to arbitration? What is the subject of dispute? 2. A resolution is before the Congress of the United States to annex certain islands to that country. What islands are these, and how are they now governed? How formerly? 3. What are the foreign possessions of the United States? 4. What Canadian provinces have recently held their elections, and with what result? 5. Mr. Laurier states that if we have prohibition there will be a loss of revenue of \$8,000,000, and that he thinks it will have to be made up by direct taxation. What is meant by "direct taxation"? What is the usual way of obtaining revenue? 6. The opponents of prohibition would like to see the question dealt with more after the style of the Swiss referendum than by a plebiscite. What is meant by this? 7. What is the cause of the famine in India? 8. What reduction was made in the debt of Great Britain last year? 9. What Canadians have won more or less fame as historians? As artists? 10. There is only one asbestos mine in the United States. Tell where this is, and also where this mineral is found in Canada. To what use is asbestos put? 11. Locate exactly on the map Piræus (pi-re-us), Larissa (la-rec-sá), Volo, Elassona. Prevezá, Epirus (e-pi-rus), Janina (ya-nec-na), Pharsalos, Domokos. 12. What is the political capital of Holland?

Drawing.

BY A. C. CASSELMAN (NORMAL SCHOOL, TORONTO).

The cuts given below are in answer to questions in May issue.

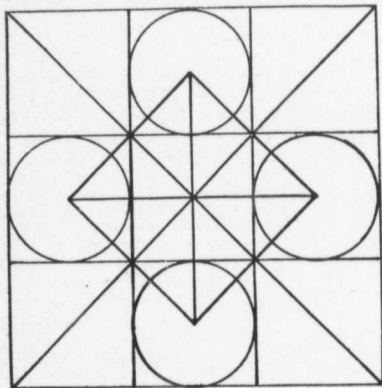


1. Draw a square 2" a side and divide it into 9 equal squares. Divide each side of the centre square into two equal parts. Join each angle of

the larger square to the two nearest points of division on the centre square.



2. Draw a square 2" a side. Draw its diameters. Divide each diameter and each side of the square into 4 equal parts. Join the points of division on the large square to the nearest point on the small square.



3. Draw two horizontal lines about 1" apart. Divide the space between them into squares. Draw the diameters of the squares. On each side of the square draw a semi-circle facing outwards.

A TALK.

The examination will soon be here. We have enjoyed talking to our young friends during the past months, and we trust that our efforts to render assistance to both teachers and pupils have not been in vain. We have one more issue before we close up our work for the present school year. We wish to use a little space in these closing numbers by way of a talk about our plans for the next year. Our first issue for the next term will be out the latter part of August, that papers may reach rural schools about the time for the opening. As we have stated in previous issues, there will be two editions of *THE ENTRANCE*—the fourth and the fifth class. Each of these will contain sixteen pages, nearly all of which will be devoted to reading matter. The price of *THE ENTRANCE* will not be increased, but may possibly be reduced. Then, of course, we are to have a paper for Third Book classes. We have not yet fully decided upon the size of this paper, but whatever its dimensions may be, we

promise a bright little paper for our young friends of the third class.

To enable us to carry out our plans in reference to the makeup of our papers we have added four sub-editors to those already on our staff. With these additional contributors, and with enlarged papers, we hope to satisfy subscribers beyond their most sanguine expectations.

We have a favor to ask of our present *ENTRANCE* subscribers. It is this: We want all those who pass the ensuing examination, and those who may be quitting school, to leave behind them the September 1st number of *THE ENTRANCE* for the benefit of the new classes. All our subscribers we know are entitled to the September 1st number, but we feel that they will help us in this matter by giving up that issue to those who take their places in the newly-formed classes. This will help the teacher too in making up his club for the next year.

PRICES—Entrance British History Notes, 15 cents; Entrance Canadian History Notes, 12 cents; Canadian History Notes (new) 15 cents; Entrance Examination Papers for the past five years, pamphlet form, 10 cents, or in clubs of two or more, 7 cents; same for Public School Leaving Papers. Binders for *CANADIAN TEACHER* or *THE ENTRANCE*, 15 cents, or in clubs of four or more, 12 cents. All postpaid.

Now is the time to use our history notes and examination papers. Six weeks more and the testing time will come. While we have a new note-book on Canadian history, we still intend to keep *The Entrance Canadian History Notes* in print for those who may want them.

We have been forced to seek larger office accommodation. We are now located at 11 Richmond street west, Toronto. In communicating with us do not fail to note the change of address.

Our Summary of Canadian History in Verse is taking well. It would afford suitable material for a jubilee programme. Price, 10 cents.

During the month of June we will supply either the *Entrance* or Leaving examination papers for the past five years, in club orders, for five cents.

The following has been sent to us by the Education Department for insertion:

Education Department (Ont.)

Toronto, May 18th, 1897.

I am directed by the Minister of Education to say that Gage's Vertical Series of Copy Books are not authorized, and that their use in the Public Schools will not be allowed by the Education Department. The only authorized Copy Books are the Public School Writing Course, Vertical System, published by the Canada Publishing Company, and the Public School Writing Course, issued by the Hunter, Rose Company.

JOHN MILLAR,
Deputy Minister

Advt.

P. S. Leaving Literature.

THE CLOUD.

The cloud is a chorus of voices rather than a solo. One writer has said, "Each fairy figure in this lovely throng sings its mission to earth or its frolics in the air, and they are all a tangled circle of floating fair-limbed creatures, laughing and gay, or grave and serious, quite capriciously, as becomes their slight textures. A hundred songs are here, a thousand pictures, all fleeting, none pausing longer than

'An eagle alit one moment may sit.'

The critics have said, "The poem has no moral." Let us see, "The cloud tells of the vicissitudes of life, of its complexity, its joy, its peace, its activities, its despair, its passions, and its abysses; it is no longer a poem, it is a soul, a living, breathing, laughing, sobbing, storming human soul, with thousands of moods and terrible mysteries; it is a fitful fever; it does not know whence it comes, though pretending to tell, nor whither it goes, though pretending to die; but it knows surely that it is immortal, and that, because when men say it is dead, the conditions are most favorable for a new birth, it can never die."

The plan of the poem is as follows:

- Stanza 1—The summer cloud.
- Stanza 2—The winter cloud.
- Stanza 3—The morning and the evening clouds.
- Stanza 4—The night clouds.
- Stanza 5—The storm clouds.
- Stanza 6—The immortality of the cloud.

EXPLANATORY NOTES.

STANZA I. THE SUMMER CLOUD.

In lines 1 and 2 the cloud sings of itself as a water-carrier.

In lines 3 and 4 it becomes an attendant on the sleeping leaves.

In lines 5-8 it changes to a bird or spirit.

In lines 9 and 10 it works as a thresher.

And in lines 12 and 13 changed into a merry, jocund spirit, it passes away, laughing at its own fickle changefulness.

What a wanton, sportive, playful, merry cherub the cloud is!

When laid.—Hanging listlessly as the leaves do during the hot day.

Noon-day dreams.—An allusion to the belief that plants grow during the night and sleep during the day.

From my wings are shaken.—A beautiful metaphor. Can you not see the dew as particles shaken from the wings of this beneficent cloud-spirit? Do not try to reconcile this poetic statement with the true scientific explanation of the formation of dew.

Mother's breast.—The bosom of the earth.

Dances about the sun.—Refers to the earth's regular motion (dance) around the sun, once every

year. Notice the contrast between the rest of the bud sleeping on the breast of Mother Earth and her ceaseless motion.

Flail of the lashing hail.—A summer hail-storm beats out the grain in the fields.

Whiten the green plains.—Covered with accumulated hail-stones.

I dissolve it.—Let the hail fall in the form of rain.

And laugh as I pass in thunder.—The laugh is not the thunder-peal, but rather refers to the glad, green appearance everything puts on after the storm, or to the golden gleams which border the dissolving clouds as the storm passes away. The cloud laughs because of its fickle changefulness. The laugh is the joyous, bubbling merriment of a kindly cherub, not the heartlessness of a revengeful demon glorying in the damage he has done.

STANZA II.—THE WINTER CLOUD.

I sift the snow.—How fittingly this describes the manner in which snow falls!

Pines groan aghast.—Under the weight of the snow.

While I sleep.—We might expect the cloud to be awake and active in the storm, but "sleep" has been suggested by the word "night." This at once suggests a "pillow" to sleep on, and "arms" to sleep in, and the figure is complete. You will notice that "this assigning of personality to inanimate objects," this making of things which are dead act as though they were alive, gives great spirit and vividness to the poem. It is called personal metaphor.

Pillow white.—This is the snow on the mountains, the dark, heavy storm-clouds seeming to rest on the mountain tops for support, and thus use the snow-clad mountain for a "pillow."

Sublime.—Majestic, stately.

Lightning, my pilot.—The cloud is now a ship, the lightning shows the way.

In a cavern under is fettered the thunder.—The truthfulness of this description of the lightning as sitting above the thunder will be apparent to anyone who has watched the lightning playing on the face of a lowering storm-cloud. "Fettered" suggests "struggles" and "howls." We would say "by fits," not "at fits." You need not wonder at the thunder in winter when you remember that it is an Italian scene, not a Canadian scene, which Shelley is picturing to us.

Lured by the love of the Genii.—Genii were, according to ancient belief, the guardian divinities of the seas, lakes, mountains, etc. Here the "Genus" is the cloud's shadow which he sees in the water. The meaning, then, is, "The cloud floats over patches of water and of land; in the water the cloud sees his image, but not so on the land; as, however, the image reappears whenever he again comes to water, he concludes the spirits follow him underground; hence,

"Over the rills and the crags and the hills,
Over the lakes and the plains,
Wherever he dream, under mountain or stream,
The spirit he loves remains."

Wherever he dream and I all the while.—The pronoun "I" stands for the upper clouds, above the rain-clouds, and therefore basking in the glorious sunlight, while "he" stands for the dark, weeping storm-cloud, ever looking earthward. This is a perfectly justifiable picture. You may often see two such sets of clouds one above the other, the one bathed in sunlight and the other "dissolving in rains."

You here, then, have a beautifully imaginative picture of the cloud as a ship, lighted by the lightning flash, lured by its own image in the water, passing on over "the crags and the hills, the lakes and the plains."

NOTE.—Some may wish to interpret the passage thus: Lightning, the pilot, lured by the guardian divinity (Genii) of the cloud, leads the cloud where he will. Then the pronoun "he" will stand for "lightning," and the "he (lightning) is dissolving in rains," in the last line, will be explained as a poetic way of expressing the thought that rain accompanies lightning.

(To be continued.)

THE BRIDGE OF SIGHS.

ANSWERS TO QUESTIONS IN OUR LAST ISSUE.

1. The subject of the poem is: The misery caused by the lack of brotherly kindness shown to us in the death, by drowning, of an unfortunate young woman.

2. The natural divisions of the poem are:

(a) The introduction. A scene of the banks of the Thames, the poet bending mournfully over the dead form of a young woman who has just committed suicide by drowning. Stanzas 1-7.

(b) The cause of the act, generally stated. Stanzas 7-10.

(c) The immediate causes of the act. Stanzas 11 and 12.

(d) The act itself. Stanza 13.

(e) The conclusion takes us again to the scene on the bank of the river, and the poem closes with a plea for sympathy and kindness for the poor sufferer.

You will see from this how perfectly the poem is developed; the opening and closing scenes on the river bank, and the glimpse we get, in the other three divisions, of the early story of the young woman, completing a most graphic picture of a sad life history.

3. The leading quality of style is pathos.

Pathos has been said to be "beauty tinged with sadness." The language of pathos in this poem is made up of such words as: Father, mother, sister, brother, dearer one, nearer one, home, God's providence, calling up in our minds the most sacred and deeply heart-felt emotions; tenderly, young, fair, gently, humanly, calling up in us all kindness, sympathy, and love. And more than all, the pathos rises to its highest in such passages as:

"Loop up her tresses,
Escaped from the comb—
Her fair auburn tresses."

How sacred these "auburn tresses" had been to some dotting mother; and how lovingly they had many times been "looped up" by that mother's careful hand. And what feelings sweep over the deep vibrating chords of our natures when we now look on their auburn loveliness made still more attractive by their luxuriant disorder.

4. The meter is shown as follows:

One more un | fortunate
Weary of | breath
Rashly im | portunate
Gone to her | death.

Written in dactylic dimeter, no more simple meter could be conceived, and yet how strikingly it is adapted to the sentiment of the poem. You feel the deep sadness of the story and the wild insanity of the "unfortunate" as the rhythm of the verse sinks into your soul. You will notice what a relief to the verse is obtained by the occasional introduction of a spondee or single accented syllable.

Grammar.

ANSWERS TO QUESTIONS IN OUR LAST ISSUE.

Dear common flower, that grow'st beside the way,
Fringing the dusty road with harmless gold,

First pledge of blithesome May,
Which children pluck, and full of pride uphold,
High-hearted buccaneers, o'erjoyed that they
An Eldorado in the grass have found,
Which not the rich earth's ample round
May match in wealth, thou art more dear to me
Than all the prouder summer-blooms may be.

—James Russell Lowell.

ANALYSIS.

I.

1. Clause—That grow'st beside the way.
Kind and connection—Adjectival, descriptive, describing "flower."

2. Clause—
Which children pluck and full of pride uphold,
High-hearted buccaneers, o'erjoyed that they
An Eldorado in the grass have found,
Which not the rich earth's ample round
May match in wealth.

Kind and connection—Adjectival, descriptive, describing "flower."

3. Clause—
That they an Eldorado in the grass have found,
Which not the rich earth's ample round
May match in wealth.

Kind and connection—Adverbial of reason, modifying "o'erjoyed."

4. Clause—
Which not the rich earth's ample round
May match in wealth.
Kind and connection—Adjectival, descriptive, describing "Eldorado."

5. Clause—Than all the prouder summer-blooms may be.

Kind and connection—Adverbial of degree, modifying "art more dear."

II.

Five modifiers of flower (line 1) are:

(a) Dear.

(b) Common.

(c) That grow'st beside the way.

(d) Fringing the dusty road with harmless gold.

(e) Which children pluck and full of pride uphold,
High-hearted buccaneers, o'erjoyed that they
An Eldorado in the grass have found, which not

The rich earth's ample round,
May match in wealth.

PHRASES.

III.

1. Phrase—Beside the way.
Classification—Adverb of place, modifying "grow st."
2. Phrase—With harmless gold.
Classification—Adverbial of manner, modifying "fringing."
3. Phrase—Of blithesome May.
Classification—Adjective, restrictive, modifying "pledge."
4. Phrase—Of pride.
Classification—Adverb of condition, modifying "tull."
5. Phrase—In the grass.
Classification—Adverb of place, modifying "have found."

IV.

- That, l. 1—A relative pronoun.
And, l. 4—A co-ordinate, copulative conjunction.
That, l. 5—A sub-ordinate adverbial conjunction of cause.
Which, l. 7—A relative pronoun.
Than, l. 9—Sub-ordinate adverbial conjunction of degree.

V.

- Verb used in the indicative mood.
(a) "pluck," line 4.
(b) Verb in the present perfect tense, "have found," line 6.
(c) Participle, "fringing," line 2.

VI.

- Flower is used as nominative of address.
Pledge is used appositively in apposition with "flower."
Eldorado is used objectively, the object of "have found."

VII.

- (a) An infinitive used as the object of a transitive verb—He likes to play.
(b) As a predicate noun—Seeing is believing.
(c) As an adjective—It was a scene long to be remembered.

VIII.

- (1) Was struck, transitive, past indefinite tense.
- (2) Are, intransitive, present indefinite tense.
- (3) Had written, transitive, past perfect tense.
- (4) Has been sent, transitive, present perfect tense.
- (5) Shall have gone, intransitive, future tense.

IX.

- (a) Clause used as the subject of a verb—*That he is guilty* is quite evident.
(b) Clause used as object of a preposition—He traded with *what capital he had*.

EXERCISE.

At this stage in the term it is thought the classes will feel the need of a variety of such exercises as are found below :

1. For *what* am I? *What* profits me my name

of greatest knight?—I fought for it and have it. *Pleasure to have it now*; to lose it, pain. Now grown a part of me; but *what* use is it? *To make men worse by making my sin known*? Or sin seem less, the sinner seeming great :

(a) Give the grammatical value and the relation of each of the italicized words.

(b) What is the force of *of* in "my name of greatest knight"?

2. "Some adjectives limit the application of the nouns they belong to; some add to the descriptive power of the noun; some limit the application and add to the descriptive power at the same time."

Illustrate these statements by showing how the adjectives in the above extract affect the meaning of the nouns they modify.

3. Distinguish clearly between a *phrase* and a *clause*. Point out and state the relation of each of the phrases and clauses in the following :

(a) That put the man out of sorts.

(b) I know well where he lives in the city.

(c) I informed him of what we were talking about.

(d) He was in the field at that time.

(e) He came to Toronto by way of Montreal.

(f) A man of his wealth is of great importance in the community.

4. What do you understand by the comparison of adjectives? Distinguish the comparative from the superlative degree as regards form and use. Indicate the comparison effected in the following sentences, noting any peculiarities or anomalies therein :

(a) Dressed thus he looks taller.

(b) This dictionary is larger than all the other books in the library.

(c) Adam, the goodliest man of men since born his sons, the fairest of her daughters Eve.

(d) He is more brave than wise

(e) My dearest mother, farewell !

(f) He was my senior by seven years.

(g) He has the best of the argument.

5. Define preposition and conjunction respectively, and show that your definitions hold good in the case of the following :

(a) He ate a slice of bread and butter.

(b) He came from under the house.

(c) She rose from out the billows.

(d) He returned with what he could buy.

(e) He cannot oppose the wishes of the committee and keep his position.

6. Give the name and grammatical value, and state the relation of the italicized words in the following sentences :

(a) He was sent to school to learn Latin.

(b) I heard him both read and sing.

(c) Here is water to drink.

(d) That is easy to talk about, but it is not so easy to do it.

(e) He came running to meet me.

(f) In crossing the street crossing, the man, trying to avoid a passing carriage, was struck by a horse and sent flying, and it was passing strange that he effected a crossing at all.

THE CANADIAN TEACHER from the present issue to November 1, 1898, for \$1.00. Address The Educational Publishing Co., 11 Richmond street west, Toronto.

Euclid.

1. Criticize the following: "Parallel lines are such as being produced ever so far both ways do not meet." Illustrate your answer from the edge of a book. Draw three lines, every two of which are parallel. Draw three lines, no two of which are parallel. Show by an example how many are required to inclose a space.

2. What is a figure? Name at least five different geometrical figures. What do you mean by a *plane* figure? Point out examples of surfaces which are not plane surfaces. Is an angle a figure? Why?

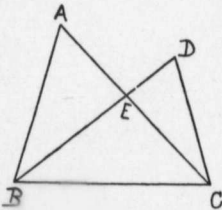
3. Define a circle. How many radii of a circle are equal? Prove that the diameters of a circle are equal. What is the distinction between a circle and a circumference? Are the two terms ever confounded? Give examples of such confusion. Criticize: "A diameter consists of two radii." Prove that the distance from the centre to a point inside a circle is less than, and that the distance from the centre to a point outside a circle is greater than, a radius of the circle.

Define circumference, radius, diameter, chord, segment, sector, quadrant, and semi-circle. Make a drawing to illustrate these, letter the drawing, and indicate by these letters each of the above.

4. What is the least number of straight lines which will enclose a space? What is the name of such figure? What name is applicable to all figures enclosed by straight lines?

Could three straight lines be drawn so that, even if produced, they would not enclose a space? Classify triangles according to sides, according to angles. Define each and illustrate each by a drawing.

What do you mean by, perimeter, base, hypotenuse, and perpendicular as applied to triangles? Show by drawings that you understand each.



ABC is a triangle. Name it in five other ways. Name all the triangles in the figure. Name the additional triangles formed if AD were joined. Name all the angles opposite to BC; to AB; to BE; to EC; to DC. Name all the sides opposite to the angle A; to D; to BCE; to DBC. Name all the exterior angles to the triangle BEC; to AEB; to CED.

5. What name is applicable to all rectilinear four sided figures. What name is applicable to the square and rhombus only? What to the square and right-angled parallelogram only? What to the square, rhombus and rectangle? Could a parallelogram be called a rectangle? Could a trapezium be called a parallelogram?

6. What are all rectilinear figures of more than four sides called? What name is applied to figures enclosed by five, six, seven, eight, nine and ten sides respectively? How many degrees in the angle of a regular rectilinear figure enclosed by three, four, five, six, seven, eight, nine and ten sides respectively?

Name the rectilinear figures which could be used in covering entirely a given space. Name what combinations of such figures might be used.

7. Define postulate. If the postulates were given as propositions, to what class of propositions would they belong? The postulates have been called "Euclid's ruler and compasses." Explain what is meant. What limitations must be observed in these instruments? In what sense is the word "circle" used in the third postulate?

8. Define axiom. If the axioms were given as propositions, to what class would they belong? What are Euclid's tests of equality?

Would it be correct to say magnitudes which fill the same space instead of "magnitudes which coincide" in axiom nine. Illustrate your answer by reference to straight lines and angles.

Arithmetic.

You will find the following exercises very valuable for oral drill. Do not be satisfied until you can both read the answer and give the method of solution, for instance, in the first example in Profit and Loss you should be able to at once say: "The selling price is \$400, the cost is \$300, therefore the gain is \$100. On \$300 the gain is \$100, therefore on \$100 the gain is $33\frac{1}{3}$ or $33\frac{1}{3}\%$. Answer."

- 4% of 8?
- 4 is what % of 8?
- 4 is 8% of what number?
- 25% of 6?
- $\frac{1}{2}$ of 6?
- 2 is $\frac{1}{2}$ of what number?
- 6 is 25% less than what number?
- 150% of 8
- 200% of $\frac{1}{2}$?
- 10 is what % of 5?
- 12 is 50% more than what number?
- $\frac{3}{4}$ of 9?
- $\frac{1}{3}$ of 9?
- $33\frac{1}{3}$ of 9?
- $\frac{1}{2}$ is what % of $\frac{1}{3}$?
- $\frac{1}{3}$ is $\frac{1}{2}$ of what number?

PROFIT AND LOSS.

- Cost, \$300; selling price, \$400; rate of gain?
- Cost, \$400; rate of loss, 2%; selling price?
- Selling price, \$200; rate of gain, $33\frac{1}{3}\%$; cost?
- Loss, \$50; rate of loss, 10%; selling price?
- Selling price, \$150; gain, \$50; gain %?
- Cost, \$600; rate of gain, 8%; gain?
- Selling price, \$30; rate of loss, 20%; loss?
- Gain, \$5; rate of gain, $12\frac{1}{2}\%$; cost?
- Selling price, \$55; loss, \$5; loss?
- Cost, \$500; loss, \$100; loss %?

COMMISSION.

- Commission, \$5; rate of commission, $\frac{1}{2}\%$; amount of sales?
- Amount invested, \$1,000; rate of commission, $2\frac{1}{2}\%$; total cost?

3. Amount of sales, \$300; net proceeds, \$295; rate of commission?
4. Net proceeds, \$196; rate of commission, 2%; amount of sales?
5. Commission, \$10; rate of commission, 5%; net proceeds?
6. Amount invested, \$600; rate of commission, 3%; commission?
7. Net proceeds, \$75; commission, \$5; rate of commission?
8. Amount remitted to agent, \$309; rate of commission, 3%; commission?
9. Total cost, \$2,100; commission, \$100; rate of commission?
10. Commission, \$12; rate of commission, 4%; amount of sales?
11. Amount of sales, \$500; commission, \$10; rate?

INSURANCE.

1. Premium, \$20; rate, 1%; amount of insurance?
2. Amount of insurance, \$2,000; rate, 2%; premium?
3. Premium, \$50; amount of insurance, \$10,000; rate?

TAXES.

1. Assessed value, \$4,000; rate, 2%; tax?
2. Assessed value, \$5,000; tax, \$25; rate?
3. Tax, \$30; rate, 1%; assessed value?

ORDINARY INTEREST.

1. Principal, \$500; rate, 6%; time, 1 yr. 6 mos.; interest?
2. Principal, \$800; interest, \$10; time, 3 mos.; rate?
3. Principal, \$1,000; rate, 4%; interest, \$200; time?
4. Interest, \$24; rate, 6%; time, 2 yrs.; principal?
5. Principal, \$300; rate, 5%; time, 2 yrs. 4 mos.; amount?
6. Principal, \$600; rate, 4%; time, 15 days; interest?
7. Amount, \$303; rate, 6%; time, 2 mos.; principal?
8. Principal, \$50; interest, \$5; rate, 2%; time?
9. Amount, \$408; rate, 8%; time, 3 mos.; interest?

Bookkeeping.

Toronto, July 2nd, 1895.

1. Pupil has this day commenced business, investing as follows:
2. Cash \$1,200, merchandise \$900, Wm. Taylor's acceptance for \$300 dated June 4th, 1895 at 30 days and payable at the Bank of Commerce.
3. Bought of Stovel & Co. on my acceptance at 10 days goods as per invoice \$300. Deposited in Bank of Commerce \$1000. Cash sales \$30.
4. Sold L. C. Fraser on account merchandise to the amount of \$15. Paid freight per cheque \$3.20.
5. Sold J. Smith on his note 15 yds. of Scotch tweed at \$1.40; 20 yds. English tweed at \$1.50; 50 yds. Oxford shirting at 30c. —. Paid cash for repairs \$7.

5. Paid my acceptance in favor of Stovel & Co. per cheque as per B.B. \$—. Sold Farren 90 yds. broadcloth at \$1.80; 75 yds. cloaking at \$1.60. Received cash \$50, and balance to remain on account. Cash sales \$120.
6. Sold M. H. Cann 25 yds. Scotch tweed at \$1.40; 40 yds. cloaking at \$2.50. Received fuel to the amount of \$35 and the rest to remain on account. Paid cash for stationery \$2.20.
7. Bought of J. H. Williams merchandise as per invoice \$60. Gave in payment my note at 30 days for \$30, and cash \$20 and balance to remain on account.
8. Withdrew for private use \$60. Paid Williams \$15 on my note and gave a new note for balance of old note. Bought horse and cart per cheque \$150. Paid clerk's salary per cheque \$60. Cash sales \$300.

Inventories:

Merchandise on hand \$2,000.
Expense on hand \$120.

In answer to P.S.L. we submit the following:

- (1) Cash deposited in the bank should be entered in the Day Book and in the Cash Book and carried from the Day Book to bank account in the Ledger. It would be wrong to enter it in the Cash Book only, and consider it as cash on hand. If a Bank Book is kept separate from the Ledger then enter it in Bank Book and Cash Book and not in Day Book, and keep no bank account in Ledger. (Single entry).
- (2) "Paid telegram to John Brown & Co. 40c." Should not be entered in Day Book but in the Cash Book only, writing "By telegram 40c."
- (3) "Instructed Bank of Toronto to send draft on Bank of Montreal for \$34 to Redpath & Co." This would appear in Day Book as follows:

Redpath & Co. Dr.	
To draft on Bank.	\$34.
Bank Cr.	
By above draft.	\$34.

Algebra.

EXERCISE I.

1. $a^4 - 16b^4$
2. $16x^4 - 81a^4b^4$
3. $16 - (3a - 2b)^2$
4. $4y^2 - (2z - x)^2$
5. $20a^3x^3 - 45axy^2$
6. $36a^2x^6 - 4a^2x^2y^4$
7. $(3a^2 - b^2)^2 - (a^2 - 3b^2)^2$
8. $(5a^2 - 3b^2)^2 - (3a^2 - 5b^2)^2$
9. $(5x^2 + 2x - 3)^2 - (x^2 - 2x - 3)^2$
10. $(3x^2 - 4x - 2)^2 - (3x^2 + 4x - 2)^2$

EXERCISE II.

1. $32a^3b^3 - 4b^9$
2. $(a^2 - 2bc)^3 - 8b^3c^3$
3. $a^2 - 2a - 8$
4. $x + 12 - x^2$
5. $1 - 18x - 63x^2$
6. $8a - 4a^2 - 4$
7. $a^3b - 4a^2b^2 + 3ab^3$
8. $a^4b + 5a^3b^2 + 4a^2b^3$
9. $(b + c)^2 - 6a(b + c) + 5a^2$
10. $9(a + b)^2 - 6(a + bc)(c + d) + (c + d)^2$

EXERCISE III.

1. $x^4 - 29x^2 + 100$
2. $100x^4 - 29x^2y^2 + y^4$
3. $x^4 - 8x^2y^2 + 16y^4$
4. $9a^6 - 10a^4b^2 + a^2b^4$
5. $x^2 - 2ax - b^2 + 2ab$
6. $x^2 + 2xy - a^2 - 2ay$
7. $4(ab + cd)^2 - (a^2 + b^2 - c^2 - d^2)^2$
8. $4(xy - ab)^2 - (x^2 + y^2 - a^2 - b^2)^2$

66
300

300

30

15