MATHEMATICAL DRAWING.

1. Draw the plan of a rectangular field 30 rods by 40 rods on the scale of ten rods to an inch.

2. A navigator sails due south from his port 84 miles, then due east 56 miles, how far is he distant from the port in a straight line.

3. The three sides of a triangle are 30, 40 and 50, find its angles by construction and measurement.

4. The base of a triangle is 25 and its two sides are 16 and 20. Find the perpendicular height of the apex above the base.

5. Find the length of a line joining the opposite angles of the field given in question No. 1.

6. The two sides of a triangle are 24 and 36 feet respectively, and the angle between them 55 ° ; find the third side and remaining angles.

7. Draw the plan of an ordinary door 3 feet by 9 feet to the scale of an inch to the foot, putting in four panels with their dimensions noted.

8. A road is cut into a level forest from a station due north 300 yards ; it is then deflected 30 ° to the east for 200 yards ; and finally it is deflected 60 ° west for 250 yards to the second station ; how many yards are the stations distant in a straight line ?

9. The two sides of a triangle are 245 and 346, and the angle opposite the lesser of these sides is 40° ; find the lengths of all the possible third sides.

10. Divide a line of 36 inches so that the square on one part may be equal to the rectangle contained by the whole line and the other part, correct to one decimal place).

[Questions 1, 2, 3, 5, and 8, would be fair ones for the County Academy entrance examination ; while candidates for Grade C, should be able to solve any of these with a fair degree of accuracy.]

OBJECT DRAWING.

1. Draw from memory an outline of a Maple leaf.
2. "   "   "   "   " a window or a gate.
3. "   "   "   "   " cup and saucer.
4. "   "   "   "   " an insect or a fly.
5. "   "   "   "   " caterpillar.

PRESCRIBED BOTANICAL SPECIES.

The following *fifty* common species (occuring in almost every School Section of the Province) are named for analysis and classification in connection with the *Botany* of the first year of the High school course. A description of the *genera* and *orders* in which these species are included should also be required. This list should be regarded as a *minimum*. Few teachers really interested in teaching science will find much difficulty inadding another fifty, which should include a few specimens of *mosses, liverworts, lichens, fungi*, and *algæ*, as well as some additional *phanerogams*. This list will, of course, be revised from time to-time.

1.	Ranunculus repens.	26.	Mentha Canadensis.
2.	Capsella bursa-pastoris.	27.	Solanum tuberosum.
3.	Viola blanda.	28.	Syringa vulgaris.
4.	Drosera rotundifolia.	29.	Chenopodium album.
5.	Cerastium vulgatum.	30.	Polygonum aviculare.
6.	Acer rubrum.	31.	Ulmus Americana.
7.	Trifolium repens.	32.	Fagus ferruginea.
8.	Prunus Pennsylvanica.	33.	Myrica gale.
9.	Fragaria Virginiana.	34.	Betula.
10.	Pyrus malus.	35.	Populus tremuloides.
11.	Ribes nigrum.	36.	Pinus strobus.
12.	Epilobium angustifolium.	37.	Abies Canadensis.
13.	Pastinaca sativa.	38.	Habenaria or cypripedium.
14.	Aralia nudicaulis.	39.	Iris versicolor.
15.	Cornus Canadensis.	40.	Smilacina bifolia.
16.	Sambucus.	41.	Juncus effusus.
17.	Leucanthemum vulgare.	42.	Carex intumescens.
18.	Cirsium arvense	43.	Triticum vulgare.
19.	Taraxacum dens-leonis.	44.	Equisetum sylvaticum.
20.	Lobelia inflata.	45.	Pteris aquilina.
21.	Epigæa repens.	46.	Aspidium spinulosum.
22.	Gaultheria procumbens.	47.	Dicksonia punctilobula.
23.	Plantago major.	48.	Onoclea sensibilis.
24.	Lisimachia stricta.	49.	Osmunda cinamomea.
25.	Veronica serpyllifolia.	50.	Lycopodium clavatum.