

U. S. Military Academy
West Point Mar. 24th 1849

Dear Brother

Your kind letter of the 13th inst came duly to hand, and I can assure you that I was highly gratified to hear that you thought I was improving in my style of writing; and also in my spelling. You may rest assured that I will continue to pay the proper attention both to my style and to my spelling. I have written two compositions, my instructor has corrected the first one, and returned it to me. There was not a misspelled word in it, and only one grammatical mistake. I used the demonstrative pronoun that when I should have used who, there were three or four mistakes in punctuation, and none in the use of capital letters. My instructor read several sentences from each composition, and criticised them very closely. The sentences of some of the section were long and involved, others were ambiguous, and upon the whole he found examples of almost every kind of incorrect writing, mine was the last one he took up and after reading nearly all of the first page, that the sentences were all short, and well constructed, and that there was not the least possible chance of misunderstanding them. He wrote at the end, very well and clearly said. I felt quite proud of the compliment I can assure you, He gave me two and eight tenths for it. I do not expect that I shall get as good a mark on the one that I handed in last, for I had ~~for~~ but one day to write it.

I have got fairly started in ~~des~~ Descriptive Geometry and like it first rate. If I am not very much mistaken I think that you once told me that you had never studied it; if you have not I must say that you have missed one of the prettiest branches of mathematics. The principal difficulty consists in drawing the figures. For each enunciation there may be from three to twenty figures which differ so much in the direction of the lines that you can hardly imagine them to be the same problem, yet the demonstration is precisely the same for all. I enclose you ~~the~~ figures of two problems so that you can see the difference of the figures by which we solve the same problem, Figures marked 1, 2, 3, 4. relate to the same problem the enunciation of which is as follows. To pull a plane through three given points in space. For the purpose of solving these problems, two indefinite planes are supposed to intersect each other at right angles, the one being vertical and the other horizontal, and to divide space into four diedral angles, The figure marked one is the solution of the problem when the points are in the first angle, the angles being numbered in the same way that they are in Trigonometry. The figure marked 2 ~~the~~ ~~from~~ one of the points is in the first angle and two in the second In the figure marked three one of the points is in the fourth and two in the second angle In the figure marked four one of the points is in the third angle and two in the second, ~~At~~ Of these four figures the first only is given in the book. the rest have to be worked out, The enunciation of the problem of which figures five and six is

the solution, is, Having given the traces of a plane and a line not parallel to the plane, by its projections, it is required to find the point where the line pierces the plane.

In Descriptive we do not use any letters. the figures have to be drawn as they are on the paper. If we were allowed to use letters it would be much easier to make a demonstration. But I suppose you have heard enough about Descriptive Geometry for the present.

I am getting along in my other studies very well. We commenced drilling the first of this week. I hope you will succeed in clearing your client, and get the horse he has promised you, for I shall want to borrow him if when I come home on furlow.

Give my love to all our family and to all

enquiring friends

To

W. R. Woods

Newark Ohio

Truly your Brother

Charles B. Woods
West Point N.Y.