

Introduction

This course corresponds to a one-year high-school geometry course and is based on the textbook Geometry by Jurgensen, Brown, and Jurgensen (Evanston, Illinois: McDougal Littell Publishing, 2000), which is sold separately. The Learn On Your Own Program enables academically motivated students to complete the geometry course at a rate that is consistent with their abilities.

In completing this course, you should work with a parent, teacher, or community professional who will serve as your mentor. The mentor will answer questions, check the assignments, grade the “Prove It” quizzes, the exams, and the final exam, and assist you with any difficulties you may encounter throughout the course. You should also have a scientific calculator available for your use.

You and your mentor should arrange an assignment schedule at the beginning of the course. Generally, students are more successful in an independent-learning course when they follow the established schedule.

Duke TIP’s Geometry Learn on Your Own course includes this **Student Workbook**, two **CD-ROMs**, and a **Mentor Manual**. (You should give the Mentor Manual to your mentor before beginning work on the course.)

The Student Workbook

The Student Workbook contains a detailed syllabus, outlining the activities and assignments for each chapter and providing additional explanations to supplement those found in the textbook. The syllabus also includes solutions to any assigned even-numbered problems.

Throughout the syllabus, a CD-ROM icon () indicates CD-ROM activities. These activities are explained in more detail below.

Finally, the Student Workbook contains solutions to the interactive exercises and independent practice problems from the CD-ROMs.

The CD-ROMs

For each chapter (excluding the special topics from chapters 10 and 14), the CD-ROMs include a video lecture, accompanied by illustrations and animations, interactive exercises, independent practice problems, and the chapter quiz. Details about each of these components appear below. The

“How this Course Works” section of the introduction provides an overview of how the CD-ROM and workbook portions of the course work together. You will find installation instructions on the printed insert inside the CD-ROM package.

Video Lecture

Every chapter begins with a lecture that introduces the major concepts and topics of the chapter. Diagrams, animations, and onscreen text illustrate and reinforce the concepts. Each lecture will introduce a significant number of definitions, postulates, theorems, and formulas, so you should take notes during the lecture, just as you would in a regular classroom. Playback controls are available at the bottom of the screen, so you can pause the lecture to make note-taking easier.

Due to the various interactive activities and feedback embedded in the lecture, you will not be able to rewind or fast-forward a lecture. As a result, you should plan on watching each chapter’s lecture in one sitting; you should allow yourself around one hour to watch the video lecture and to complete the interactive exercises. Of course, you will be able to watch a lecture multiple times.

It is important to note that the video lectures are intended to be introductory rather than comprehensive. The concepts and topics introduced in the lecture are reinforced through the other workbook and CD-ROM activities in each chapter. The lecture is **not** intended to be a substitute for these other activities.

Interactive Exercises

Throughout each lecture, you will have opportunities to check your understanding of the material covered up to that point by completing interactive exercises. In some exercises, you will type an answer in a box, and in others you will click on parts of a diagram. Some problems, particularly those involving proofs, will ask you to “drag and drop” items into the correct position. In some cases, you may need to draw a diagram or perform calculations with pencil and paper in order to solve the problem.

Once you have entered an answer, you will receive feedback on the answer. If the answer is correct, you will move to the next exercise or continue with the lecture. If the answer is incorrect, you will receive a hint (e.g. “Triangle ABC is a right triangle. Use its properties to find the length of \overline{AB} .”), and you will have an opportunity to try the problem again. If your second attempt is also incorrect, you will find the solutions to the interactive

exercises in the back of this workbook. You can then enter the correct answer and proceed to the next exercise or lecture topic. **NOTE:** After three attempts, the CD-ROM will automatically proceed to the next exercise or lecture topic.

If you consult the solutions for an interactive exercise, be sure to make special note of the concepts involved in that problem so you can thoroughly review them in the workbook portion of the course and/or with your mentor.

Independent Practice Problems

At the end of each chapter's lecture, you will have the opportunity to solve independent practice problems by combining and applying several of the concepts from the chapter. As with the interactive exercises, these problems will involve various types of interaction, and you will receive feedback on your answers, including a hint about the problem after an incorrect response. A "Hint" button, which will reveal an additional clue, appears beside each problem as well.

The solutions to the independent practice problems appear at the back of this workbook. You should make note of those problems that prove to be particularly challenging so that you can review the appropriate topics in the workbook portion of the course and/or with your mentor.

Chapter Quiz

After completing the video lecture, interactive exercises, and independent practice problems, as well as the reading and problems in the Student Workbook and geometry textbook, you will return to the CD-ROM for the chapter quiz. The interactivity on the chapter quizzes will be similar to that in the interactive exercises. You will see each quiz question individually, but you will be able to move back and forth between questions until you are ready to submit the quiz for grading. You will need to perform calculations during the quiz, so be sure to have pencil and paper available. If you want or need to make notations on a question's diagram, you can click on the "Print Diagram" icon, or you may find it useful to draw and label your own diagram.

Some of the quiz feedback functions will vary depending on your computer platform (Windows[®] or Mac[®]).

Windows®

Once you submit the quiz for grading, you will see a feedback table, indicating correct and incorrect answers (See Figure 1). If you have correctly answered all of the questions on the quiz, you are ready to proceed to the next chapter. If any answers are incorrect, you can look at those questions (click “View Question”) to try to identify your errors and the topics covered on those questions. You should then review those topics before taking the quiz again.

Question no.	Result
1	✓
2	✓
3	✗ View Question
4	✓
5	✓
6	✗ View Question
7	✗ View Question
8	✗ View Question
9	✗ View Question
10	✗ View Question
11	✗ View Question
12	✗ View Question
13	✓
14	✗ View Question

Figure 1 – Feedback Screen After First Quiz Attempt

If you are ready to take the quiz again immediately, you can click on the “Take Quiz Again” button. If you need to review your notes, workbook, or the video lecture before your second attempt, you can access the quiz by selecting “Chapter Quiz” through the course’s main menu.

On the second quiz attempt, will only be quizzed on those topics you missed on the first attempt, and you will receive a new question that tests that topic. For example, if Figure 1 (above) represented the feedback screen after your first attempt, the second quiz attempt would begin with Question 3 since Questions 1 and 2 were correct on the first attempt. Similarly, the second attempt would only include Questions 3, 6-12, and 14.

After submitting the second quiz attempt, you will again see a feedback table (See Figure 2).

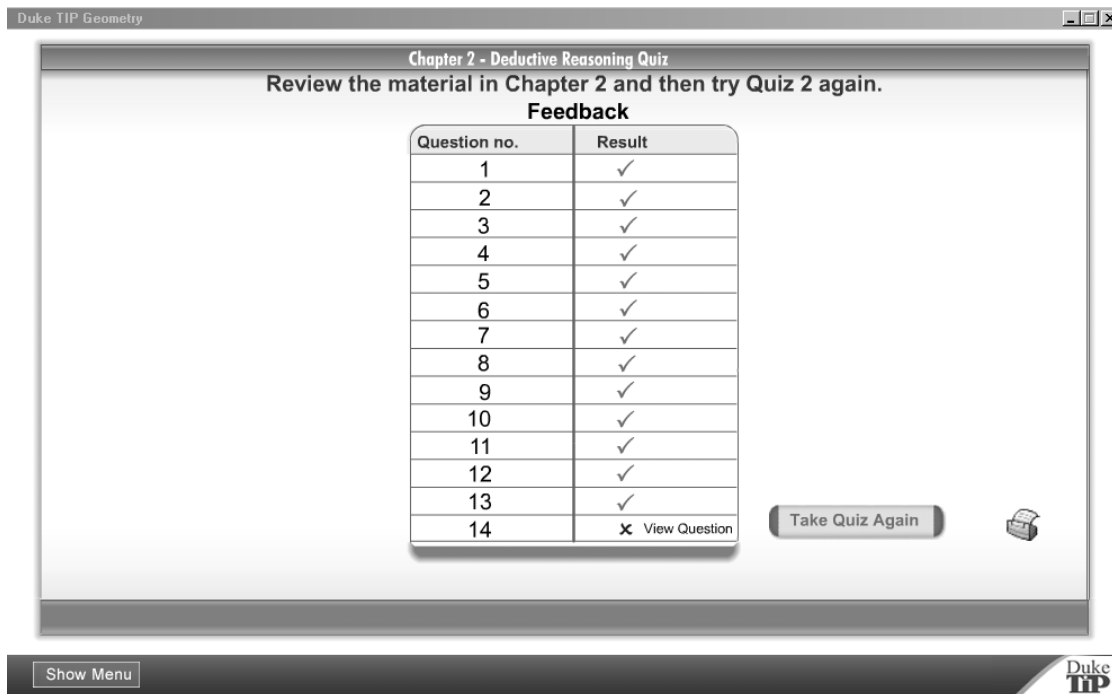


Figure 2 – Feedback Screen After Second Quiz Attempt

If all answers are correct, you are ready to proceed to the next chapter. If any answers are incorrect, you can again review those questions by clicking “View Question”. After the necessary review, you can proceed to the third and final quiz attempt.

After submitting the third quiz attempt, you will receive a final feedback screen. If all the answers are correct, you will be directed to the take the chapter’s “Prove It” quiz with your mentor. If any answers are incorrect, you will find a listing of the topics you should review with your mentor on the feedback screen (See Figure 3, next page). If the example in Figure 3 represented your work on Chapter 2’s quiz, you would need to review the definitions of perpendicular lines and supplementary angles (the concepts covered on Question 14 of the quiz) before moving on to Chapter 3. If you want to see the correct answer for any question you missed, click “View Question”; the correct answer will be displayed in green.

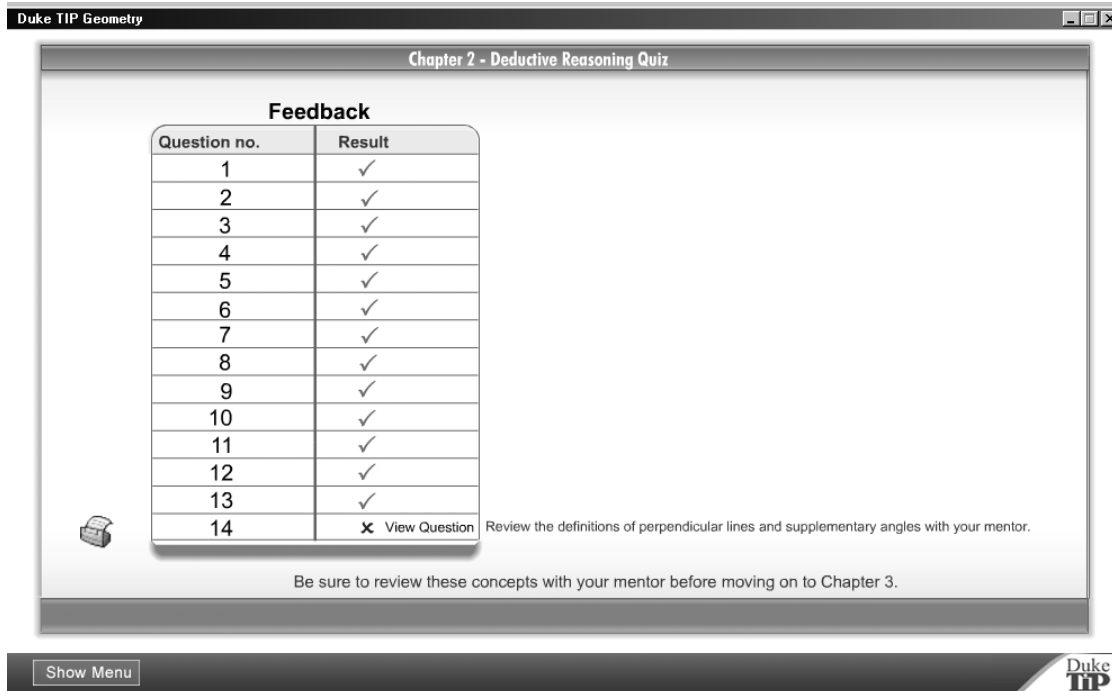


Figure 3 – Feedback Screen After Third and Final Quiz Attempt

Important Note to Windows® Users

In any mathematics class, it is critically important that you master the material in one chapter before moving on to the next one. Since Duke TIP's Geometry Learn on Your Own course is an independent study, it is even more important that you have a thorough understanding of each chapter's material before proceeding to the next chapter.

For this reason, the CD-ROM content for each chapter (video lecture, independent practice problems, and chapter quiz) is "locked" until:

1. you have answered all quiz questions correctly for the previous chapter's quiz;
- or**
2. you have attempted the previous chapter's quiz three times.

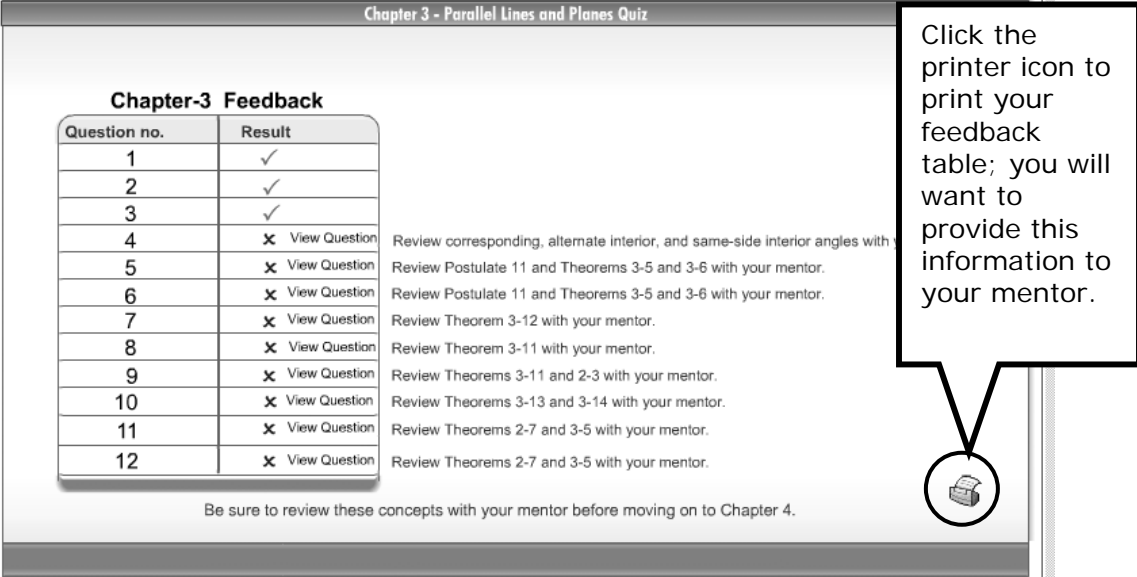
If, after three attempts, you have not answered all questions, correctly, be sure to complete the necessary review with your mentor before proceeding to the next chapter.

Review Mode in Windows®

As you are preparing for exams, you may find it useful to review the chapter quizzes for the covered chapters. To review a quiz that you have already completed, click on the chapter title in the course's main menu, and then click on "Chapter Quiz." You will then be able to view the quiz questions for that chapter. You will not, however, be able to answer the questions or receive feedback.

Mac®

Once you submit your quiz for grading, you will see a feedback table, indicating correct and incorrect answers (See Figure 4). Beside each incorrect answer, you will find the topic that you should review with your mentor before moving on to the next chapter. If you want to see the correct answer for any question you missed, click "View Question"; the correct answer will be displayed in green.



Chapter 3 - Parallel Lines and Planes Quiz

Chapter-3 Feedback

Question no.	Result	
1	✓	
2	✓	
3	✓	
4	✗ View Question	Review corresponding, alternate interior, and same-side interior angles with
5	✗ View Question	Review Postulate 11 and Theorems 3-5 and 3-6 with your mentor.
6	✗ View Question	Review Postulate 11 and Theorems 3-5 and 3-6 with your mentor.
7	✗ View Question	Review Theorem 3-12 with your mentor.
8	✗ View Question	Review Theorem 3-11 with your mentor.
9	✗ View Question	Review Theorems 3-11 and 2-3 with your mentor.
10	✗ View Question	Review Theorems 3-13 and 3-14 with your mentor.
11	✗ View Question	Review Theorems 2-7 and 3-5 with your mentor.
12	✗ View Question	Review Theorems 2-7 and 3-5 with your mentor.

Be sure to review these concepts with your mentor before moving on to Chapter 4.

Click the printer icon to print your feedback table; you will want to provide this information to your mentor.

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Figure 4 – Feedback Screen for Mac Users

Additional Resources

Algebra Review, College Entrance Exam Preparation, Self-tests, and Chapter Review are provided throughout your textbook for additional practice. You should work problems from these sections if you feel that you need additional practice or study problems as you prepare for quizzes and exams.

Good luck!!