

Course Syllabus
Cherokee Christian High School
2011-2012

I. Basic information

A. Course Name: Geometry

B. Instructor Name and Contact Information: Dr. Rod Kirby,
rod.kirby@cherokeechristian.org

C. After school hours: 3:20-4:30

D. Required Text/Materials:

1. *Geometry: Applying, Reasoning, Measuring* (McDougal Littell, 2001)
2. Loose-leaf notebook paper and scratch/drawing paper
3. pencils with erasers
4. a calculator: Scientific calculator that includes pi, square roots, and all trig functions. Preferred calculator is the TI-30X (as explained in the Parent/Student Handbook)
5. Graph paper
6. A compass (traditional kind, having two arms with a pencil on one arm and a point on the other)
7. A protractor

II. Course information

A. Course Overview:

Geometry is the study of the size, shape and position of 2 dimensional (flat) shapes and 3 dimensional (not flat) figures. However, geometry is used daily by almost everyone. In geometry, you explore a sense of space and logical skills. Geometry is found everywhere: in art, architecture, engineering, robotics, land surveys, astronomy, sculptures, space, nature, sports, machines, cars and much more. You will not only learn specific knowledge of geometry, but will also learn how to think logically, which will help you immensely in your other classes.

B. Class Schedule by Quarter:

	Main topics covered	Major assignments with approximate due dates
Quarter 1 Aug. 3 – Oct. 7	Basics of Geometry Reasoning and Proof Perpendicular and Parallel Lines	Test after each unit; dates to be announced
Quarter 2 Oct. 11 – Dec. 9	Congruent Triangles Properties of Triangles Quadrilaterals	
Quarter 3 Jan. 3 – Mar. 15	Transformations Similarity Right Triangles and Trigonometry	
Quarter 4 Mar. 19 – May 18	Circles Area of Polygons and Circles Surface Area and Volume	

III. Policies and Procedures

A. Grading

- **10% - Class participation.** You are expected to participate in class, to pay attention, to work when you have assigned work. You get a participation grade at the end of every week. Each day you come to class unprepared, or obviously do not take part in class, you will lose 20 points off that week's participation grade.
- **15% - Homework.** You can expect an assignment every night (some exceptions). These will sometimes be checked for completion and sometimes for accuracy, at the teacher's discretion. Homework is due and will be checked or collected at the *beginning* of class.
- **25% - Quizzes.** These may be announced or unannounced. They may be cumulative -- that is, at any time you may be quizzed on material from lessons previous to the current lessons. Geometry, by its nature, is cumulative, so you cannot learn something for one lesson and then not have to use it again.
- **50% - Tests.** Generally, one test at the end of each chapter. Again, these may be explicitly cumulative.
- **Semester exams** (for those with less than an "A" average at the end of each semester) will count 10% of the semester grade, in accord with school policy. Exams will be cumulative, including the second semester exam, since material learned in the first semester is required as a basis for second semester work.
- **Extra Credit** – Every Monday (with few exceptions) I will have a "Question of the Week" on the class website (rodkirby.classtell.com). You can get extra credit *if* you email me (rod.kirby@cherokeechristian.org) the correct answer *no later than midnight on Monday*. I will *not* take answers in any other form other than email to my school address, and if you send the answer later than 12:00:00 midnight on Monday it will not count. Every correct answer will add one point to your quarter (report card) grade. *Please note:* you will see those points if you look in PowerSchool, but they will *not* be added to the grade until report cards are printed; this is just the way PowerSchool works.

B. Behavioral expectations

As in any class, you are expected to conduct yourself appropriately as a follower of Jesus Christ. This includes paying attention to the teacher and following instructions (an application of the Fifth Commandment) and not talking to others during class except during class discussion times (an application of the Second Great Commandment, to love others as yourself by not distracting them from their work). You should be in your seats when the tardy bell rings with your homework out on your desk. There will be work on the overhead for you to do at the beginning of the class (“bellwork”); you should begin work on that when you come into class.

You will often have time at the end of the class period to begin work on your homework. Since you are now in high school, you will not be forced to use this time in this way, as long as you are quiet enough for others to work. However, you are well-advised to begin your work during this time for three reasons. *First*, it will cut down on the amount of work you have to do after school. *Second*, if you run across something you don’t understand, you can ask about it while you are still in class, rather than trying to figure it out later. *Third*, the concepts will be fresh on your mind, so it should be easier to do the work than if you wait until you might have forgotten some things.

C. Absence/Makeup policy

When you are absent for any reason (illness, oversleeping, shopping, sports, etc.), it is your duty to take care of your responsibilities as described below. It is not the teacher’s job to chase you down to turn in missing homework, to take make-up tests, etc. It’s your job to see the teacher to take care of these things. If you forget to turn in missing work, and you end up with a low grade, it’s your problem, not the teacher’s. That might seem harsh, but it is a fact of life you need to learn to deal with.

Your absence may either be *authorized* or *unauthorized*, as defined in the Parent/Student Handbook, or it may be due to an early dismissal due to school sports or other school activity.

- *Authorized absences*. In order for these policies to apply, the teacher must receive a copy of the “Authorized Absence Form” which has been submitted by your parents.
 - *Homework* - If the assignment was given in class while you were present, the homework is to be turned in at the beginning of class the first day you return. Otherwise, in accord with school policy, you have as many days to turn it in as you were absent. *Example 1*: You are in class on Monday, and homework is assigned to be due on Tuesday. You are sick Tuesday and can’t come to school. You return to school with an excuse on Wednesday. Your homework from Monday night is due at the beginning of class on Wednesday. *Example 2*: Same situation, but homework was assigned in class on Tuesday (the day you were absent) which was due on Wednesday. You were absent one day, so you have one day to make up that homework. Your homework from Tuesday night is thus due at the beginning of class on Thursday (along with any homework which may be assigned in class on Wednesday).
 - *Quizzes* - Same policy as with homework; if the quiz is announced on a day you are in class, and you are absent on the day of the quiz, you must take the quiz the first day you return. If the quiz is announced on a day you are absent, you will have as many days as you are absent to make up the quiz.

Unannounced (pop) quizzes may or may not be made up, at the teacher's discretion.

- *Tests* - These are almost always announced well enough in advance so that you know when you have a test coming up. If you are absent on the day a test is given, you must make up the test on the first day you return to class. **Note well:** you are *not* allowed to reschedule tests simply because you are absent the day before a test ("I wasn't here for the review"), or because you were absent the day a particular concept on the test was taught in class ("I missed the day you covered isosceles triangles, so I get an extra day to prepare for the test"). It is your responsibility to learn the concepts which were taught during your absence, whether you do so by meeting with another student in the class or by asking the teacher questions after you have worked through the lesson yourself (before the date of the test). When you miss class, even for valid reasons, it results in more work on your part (not on the teacher's part). Again, that might seem harsh, but it is the reality of life -- ask your parents about work piling up on their desks while they are on vacation.
- *Unauthorized absences.* In accord with school policy, you will receive a zero for any work missed due to unauthorized absences. That includes homework, quizzes, and tests. You are still responsible for the content covered during your absence, however.
- *School activity* (school sports, etc.). It is your responsibility to see the teacher **before** you leave -- preferably the day before or at the beginning of the day you leave -- and make arrangements for makeup work. You will generally be asked to turn in homework before you leave. You may be required to take a quiz or test before you leave, or you may be allowed to take it the next day. That is *the teacher's* decision, not yours. If you do not make arrangements for these absences ahead of time, you may receive a zero for missed work including quizzes and tests. Yes, that is an extra responsibility you have. But that is a responsibility you assume by participating in a sport or other school activity -- the responsibility to make sure your work is done properly. As with authorized absences above, it is your responsibility to learn concepts taught while you are out of class; you do not get extended time for tests simply because you missed the review lesson.

D. Other essential information for your course

"What about turning in homework late?"

This applies to two situations: (1) You have been absent as defined above, your homework is due as explained above, and you fail to turn it in when you are supposed to; or (2) You have not been absent, but you simply do not turn in your homework when it is due. In both cases, you will be allowed to turn it in the next day you are in class, but will receive a 25% reduction in the grade. Late work will not be accepted more than one day late, and will be assessed a zero.

"What can I do if I need extra help?"

There are several options for you to get help if you don't understand the material.

1. Most importantly, ask questions in class when we are discussing the material. If you don't understand or follow what we are doing, ask about it at the time. That is the best time for you to get questions answered. If you ask right at that time, you can generally be specific about what you don't understand. If you wait until later (say, that night when you are trying to do your homework), you may get confused about what you need help on.

2. Our class website is at <http://rodkirby.classstell.com/> This has a copy of the syllabus and a calendar listing each day's assignments along with the Powerpoint presentations from the day (only posted *after* class is over). If you go through the Powerpoint, it will help you review the concepts.
3. If you need help after school or at 3:00 in the morning, when you are trying to finish your homework, you may go to the textbook website (see below) or use one of your lifelines (call a friend – you don't get a 50-50 or an "ask the audience" lifeline). Please note: the teacher is *not* one of your friends at 3:00 a.m., and the parents of your classmates are probably not going to remain your friends at 3:00 a.m. See below about helping one another.
4. You may see me after school or during a study hall. Please check with me ahead of time to make sure, as I may have other things come up any particular day. You should *not* wait until the day before a major test to get urgent questions answered, since I may not be available to help.

“How can we (students) help one another?”

There are some ways you are *not* allowed to help each other. If you do any of these, it will be considered cheating, and will be treated in accord with the Parent/Student Handbook.

1. Copying another student's homework, whether using the copying machine or copying it by hand.
2. Giving each other the answers to the problems.
3. Dividing up homework and sharing your work (“I'll do the first five questions, you do the next five, etc.”).
4. Doing your work separately, then comparing your work and changing your answers just to match your friend's answers.

There are some acceptable ways to help one another.

1. Pray for one another.
2. Do your homework separately and then compare your work. If several of you get different answers, talk about those and figure out who might be right and who might be wrong, and *why* you might be wrong. Then re-work the problem the right way.
3. Talk to one another about general principles (“how do you prove the Pythagorean Theorem?”).
4. Quiz one another before a test.
5. When you get a test or quiz back, ask a friend how to do a problem you got wrong.

“Can I use calculators and/or computers?”

You are required to have at least a scientific calculator, as listed above. There will be many times we will use it. The purpose is not for you to get out of learning how to do calculations. Rather, there are many lessons when the purpose is some concept in geometry, and not doing basic arithmetic. Calculators will help you learn those concepts better.

Computers (laptops, etc.) are not allowed on tests, and are generally not to be used in class. However, there is some very helpful computer software which is useful in geometry – *Geometer's Sketchpad*. There is a discounted student edition available at <http://www.keypress.com/x24070.xml>; you may either purchase a one-year license for \$9.95 or a non-expiring license for \$29.95. ***This is entirely optional*** – you are *not* required or expected to purchase this, and you will not need it for any assignments or tests. However, as you will see in class, it is very helpful for grasping how geometry works, and will be helpful in higher mathematics courses as well.

Guidelines for Solving Math Problems

Guideline	Examples
Always simplify (unless otherwise instructed). Always.	Not simplified: $\frac{14}{6}$; Simplified: $\frac{7}{3}$ Not simplified: $3 + 5 + x$; Simplified: $8 + x$ Not simplified: $\sqrt{20}$; Simplified: $2\sqrt{5}$
Simplifying does not mean “use a calculator to arrive at your solution.” Simplification is work that can be done without a calculator.	Simplified: $\frac{7}{3}$ Not simplified: 2.3333 Simplified: $2\sqrt{5}$ Not simplified: 4.4721 Simplified: π Not simplified: 3.1415
Never write decimals in rational expressions.	Wrong: $\frac{2.5}{3}$ Right: $\frac{5}{6}$
If a problem starts with fractions, write the answer using fractions. If a problem starts with decimals, write the answer using decimals.	Wrong: $\frac{1}{6} + \frac{1}{6} = 0.3$ Right: $\frac{1}{6} + \frac{1}{6} = \frac{1}{3}$ Wrong: $\frac{1}{2} + \frac{1}{4} = 0.75$; Right: $\frac{1}{2} + \frac{1}{4} = \frac{3}{4}$ Wrong: $0.4 + 0.5 = \frac{9}{10}$; Right: $0.4 + 0.5 = 0.9$
Use a “0” in front of decimal numbers that are less than 1	Wrong: .5; Right: 0.5
Write rational expressions using a straight line, not a slanted one.	Wrong: $\frac{1}{/2}$; Right: $\frac{1}{2}$
Show all your work in a neat format.	Wrong: $\frac{x^2+5x+6}{x^2-36} = \frac{x+2}{x-3}$, Right: $\frac{x^2+5x+6}{x^2-9} = \frac{(x+2)(x+3)}{(x-3)(x+3)} = \frac{x+2}{x-3}$
Never leave radicals or complex numbers in denominators unless otherwise instructed.	Wrong: $\frac{1}{\sqrt{2}}$; Right: $\frac{\sqrt{2}}{2}$ Wrong: $\frac{1}{1+i}$; Right: $\frac{1-i}{2}$
Do not leave negative exponents in a solution unless otherwise instructed.	Wrong: x^{-2} ; Right: $\frac{1}{x^2}$
Use pencil.	
Use graph paper for graphs unless otherwise instructed.	