

Math Resources for Students and Parents

Struggle is a part of learning math and everyone will get stuck at some point and feel frustrated. But those who are most successful in math have strategies that involve using the resources available to them to help them get unstuck. Bellarmine math teachers would like students and their parents to know that there are a number of useful resources available to them to help them navigate their way through math.

Group-Mates in Class

We encourage students to ask questions of their groupmates in class. Our class structure and classroom norms are designed to support plenty of opportunity for questioning and discussion between students—both for exploration of new ideas and for homework review. Many questions can be cleared up this way. But sometimes the group is stumped, or after hearing an explanation the student is still confused. In these situations the student should feel free to bring the question to the teacher. If the teacher doesn't have time to answer the question at that moment then he/she will invite the student to see the teacher at the end of class or during office hours.

Teacher Office Hours

The best out-of-class resource available to students is a visit to teacher office hours. All of our teachers post the hours they are available for drop-in questions before or after school or during break or lunch. If a student's activities conflict with his teacher's office hours then he should let his teacher know and the teacher will arrange an alternative meeting time.

Younger students are often hesitant to use office hours because of a misunderstanding of what office hours are. Office hours is a block of time in which a teacher is available to answer the questions of any student who wants to come in and ask. For example, a student can ask for clarification of a concept, he can ask to work a few practice problems with the teacher, or he can ask for specific strategies for preparing for a quiz or a test. When our graduating seniors are asked what single piece of advice they would give to someone who wants to succeed in math at Bellarmine, seeking help from teachers—right away, as soon as the student needs it—is the number one response. All of our teachers are more than happy to answer a student's question, clarify a concept, or strategize about an upcoming exam.

There are a number of reasons why office hours is the most beneficial form of outside help:

- When a student meets with his teacher he will not only receive help but also course-specific advice that only the teacher can provide. Working together also builds the student-teacher relationship and fosters better communication.
- The conversation will provide important feedback for the teacher regarding what his or her students are struggling with and could lead to helpful adjustments in instruction.
- An office hours visit or two may provide enough help to help navigate the student through his struggles. When the student is back on track he learns that seeking help and advocating for

himself are useful strategies when he encounters struggle. These are the types of strategies that will serve him well when he goes off to college.

- A teacher is in a better position to make recommendations regarding additional resources after having met with a student during office hours.

We want all students to know that office hours are used by many of our most successful math students. Successful students learn to use all of the resources available to them effectively and teacher office hours is definitely the first outside-of-class resource to try.

On-Campus Math Tutors in the Academic Resource Center (ARC)

In addition to teacher office hours, students can meet with math tutors in ARC on a drop-in basis before during or after school. These tutors are current college students or recent college graduates who can answer questions and help with homework as needed. ARC is located on the second floor of the Lokey building.

CPM Textbook and Online Resources for Algebra 1, Geometry, and Algebra 2

We use the College Preparatory Math (CPM) curriculum for all of our Algebra 1, Geometry, and Algebra 2 courses. CPM provides a number of valuable resources for students and parents.

Homework Help

CPM provides students with free online access to hints and/or answers to assigned homework problems. (Notes that teachers also often post answers to assigned homework problems on Canvas.) Students are encouraged to do their best to arrive at a solution on their own and to access the homework help when they need it. The answers are also provided so students can check their work and they are highly encouraged to do so. In math, a student's answer to a problem can appear to be correct when in fact it's not. It is important to confirm that it's correct by checking the answer online. Oftentimes making a student aware of his homework mistake can lead to an excellent learning opportunity. If a student is experiencing difficulty with homework on a consistent basis then he is encouraged to see his teacher during office hours.

Links to Homework Help Pages:

(Note: There is also a link to the HW help page from the student's eBook)

Algebra 1:

<https://homework.cpm.org/cpm-homework/homework/category/CC/textbook/CCA>

Geometry (or Geometry Honors):

<https://homework.cpm.org/cpm-homework/homework/category/CC/textbook/CCG>

Algebra 2 (or Algebra 2 Honors, or Accelerated Algebra 2):

<https://homework.cpm.org/cpm-homework/homework/category/CC/textbook/CCA2>

Parent Guide for Clarification and Extra Practice

Sometimes students want an alternative explanation of an idea along with additional practice problems. The Parent Guide resources are arranged by chapter and strand. The format of these resources is a brief restatement of the idea, some typical examples, practice problems, and the answers to those problems. The parent guide can also be a helpful resource for parents who are working with the student. The **Parent Guide** is available as a printed copy for purchase at the [CPM Web Store](#) (\$20) or **accessible free** in pdf format by following the appropriate link below.

Algebra 1 Parent Guide

<http://cpm.org/cca-parent-guide>

Geometry (or Geometry Honors) Parent Guide

<http://cpm.org/ccg-parent-guide>

Algebra 2 (or Algebra 2 Honors or Accelerate Algebra 1) Parent Guide

<http://cpm.org/cca2-parent-guide>

(Especially Good Resource For Summer Work)

Checkpoint Problems to Check Mastery of Learned Skills and Readiness for the Next Level

Upon completing each of our Core math courses (Algebra 1, Geometry, and Algebra 2), a student is expected to have mastered a set of key skills so that he will be adequately prepared for the course at the next level. These skills are summarized in the back of each textbook in the “Checkpoint Materials” section. The text identifies one or two problems from each chapter as “Checkpoint Problems,” which students can attempt to solve in order to determine whether they have mastered a particular skill (e.g. “Solving Linear Equations”). Full solutions to checkpoint problems, along with some explanation, are included in the Checkpoint Materials section. There are also additional practice problems on each topic, along with answers, to help the student develop the skill.

Checkpoint Problems can be used by a student to quiz himself as he moves through a course, but they can also be used during the summer after the course, to ensure readiness for the next level. We believe that ensuring readiness by checking skills from a student’s previous course is a better use of summer math time than trying to preview the next course. Ensuring a firm foundation is a key success factor. The table below provides guidance regarding which Checkpoint Problems apply for each course.

| Checkpoint Problems from: | Could be used to test and develop student’s skills as the student progresses through: | Could be used to test and develop student’s skills in the summer prior to taking:* |
|---|---|--|
| Algebra 1 Text (Core Connections Algebra) | Algebra 1 | Geometry |
| Geometry Text (Core Connections Geometry) | Geometry | Algebra 2 |

| | | |
|---|-----------|-------------|
| Algebra 2 Text (Core Connections Algebra 2) | Algebra 2 | Precalculus |
|---|-----------|-------------|

*Note: If a student's eBook subscription expires over the summer then another 1-year subscription can be purchased at shop.cpm.org for \$10.

It's important to remember that different students master skills at different rates. But it's helpful for all students to measure and practice skills and Checkpoint Problems are a useful tool for this.

Youcubed.org: Resources on Learning Math

Youcubed.org is a website started by Stanford professor, Jo Boaler, who has conducted research into effective ways of teaching and learning math. She has also done a lot of work in the area of leveraging the benefits of a Growth Mindset for learning math. On her website she presents a number of her findings, and she offers very practical advice for teachers, parents, and students. Many of our Bellarmine math teachers have taken Dr. Boaler's online courses and her work influences what we do in the classroom a great deal.

Our department teachers have found Dr. Boaler's work to be both inspiring and useful. We encourage all parents and students to visit the web site to perhaps challenge some commonly-held misperceptions about what math is and what it takes to be successful in math.

Youcubed Link for Parents:

<https://www.youcubed.org/parents/>

Youcubed link for Students:

<https://www.youcubed.org/students/>