College Trigonometry Online
MAC 1114-CRN 13122
Valencia College
Fall 2014

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This syllabus is a contract between the student and the instructor. By enrolling and attending in this course, the student agrees to and accepts the terms and conditions of this contract. It is the responsibility of the student to carefully read this syllabus/contract in its entirety and to adhere to all policies and procedures within.

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Course Information

Description: Prerequisite: Minimum grade of C in MAC 1102, 1104, or 1105 or appropriate score on an approved assessment. (3 credits) Topics include a symbolical, graphical, and numerical analysis of trigonometric functions; the polar coordinate system; trigonometric equations and inverse functions; solutions of plane triangles and vectors. Applications emphasizing connections with other disciplines and with the real world will be included. Technology tools will be utilized in addition to analytical methods. Gordon Rule course. Minimum grade of C required if MAC 1114 is used to satisfy Gordon Rule and general education requirements. Credit not given for MAC 1114 combined with any of the following: MAC 1132, MAC 1142, or MAC 1147.

Course Learning Outcomes:

- Demonstrate an understanding of the definitions of the trigonometric functions.
- Use the trigonometric functions to solve problems that are based on triangles.
- Demonstrate an understanding of the graphs of the trigonometric functions.
- Use trigonometric identities to find equivalent expressions.
- Demonstrate the ability to solve equations involving trigonometric functions.

Computer and Internet Requirements: You'll need an updated internet browser that supports access to the Valencia Blackboard (Bb) course and Pearson's MyMathLab. Go to http://www.mymathlab.com/installwiz.htm to check your computer's compatibility.

Required Materials:

MyMathLab Access Code: Available at the East campus Valencia bookstore (Building 5) or online at http://www.mymathlab.com/. This provides access to your required online homework and an electronic copy of the textbook.

Graphing Calculator: TI-83/83plus/84 or 89 Graphing Calculator. (Some professors require the TI-89 in Calculus). There is a graphing calculator tutorial in the **Tools for Success** button in MML

Optional Materials:

Text: Trigonometry (10th edition) by Lial, Hornsby, Schneider, & Daniels.
Student solutions manual: available in the bookstore or online.

Teaching Philosophy: My role is to provide you with a quality learning environment, guide your progress, and be a facilitator of learning. In this course you will have the opportunity

to learn skills that will be relevant to future courses and your professional career. You are responsible for your own learning.

Attendance: This online class has no scheduled class meetings. However, the final exam must be taken at an approved proctored testing site and students must show attendance by participating in an "academically-related activity" in the first week of class in order to avoid a No Show Withdrawal. See below

No Show Status: By the "Program Integrity and Documentation of Online Course Attendance" published by the U.S. Department of Education (ED) and adopted by Valencia College, any student registered in an online course must show attendance by participating in an "academically-related activity."

In this course, you will demonstrate attendance by performing ALL 3 of the following in the first week of class (August 25-31, 2014):

1. Introduce yourself to me through Blackboard Messages.
2. Complete the Syllabus Quiz in Bb with a passing score.
3. Complete at least one section of assigned homework in MyMathLab with a minimum score of 80%.

If you do not meet the requirements stated above, you will be withdrawn as a No-Show due to non-compliance with the ED attendance policy.

Time Commitment: An online course may require more of a time commitment than a traditional onsite course. The time that you would normally spend in a classroom or at home studying should be spent reading the textbook, watching lecture videos, working practice exercises, doing assigned homework, and taking tests. A traditional onsite course is usually 3 classroom hours and 6 study hours per week. This online course will require AT LEAST the standard 9 hours per week, and is likely to take more time than you expect.

Communication: This is an online course, so we will primarily communicate electronically. All student-to-faculty communication should receive a response from me within 36 hours, excluding Saturdays and Sundays. Blackboard messages will be our main form of private communication, while the Discussion Board in Bb should be used for public student communication. You are responsible for any information conveyed through Blackboard, MyMathLab, or your Atlas email account. For this reason, it is important that you check these on a regular basis.

I also expect that students will reply in a timely manner. All communications should demonstrate appropriate etiquette and professionalism. Always include an appropriate subject line (with the course and subject of the email) and sign the email with your name.

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Getting Started

MyMathLab (MML) and Blackboard (Bb) will be your primary learning platforms for this course. Blackboard contains course messages, the syllabus, links to MyMathLab and other online learning resources. MyMathLab contains an electronic version of the textbook, homework, quizzes, tests, and your grade book. Both MyMathLab and Blackboard will contain a course calendar of important dates and deadlines.

Log-in to Bb using your ATLAS Username and Password: http://learn.valenciacollege.edu

How to Register for MyMathLab:

1. Go to www.mymathlab.com

2. Under Register, click **Student**.

3. Notice you'll need 3 things. Click **OK, Register Now!**

4. Enter the course ID **adams13998** and click **Continue.**

5. If you have used MyMathLab before and have a Pearson account, enter your username and password and click **Sign in**. If you don't have a Pearson account, click **Create an Account**.

6. Register by selecting one of the following options:

- Select **Use an Access Code** if you have already purchased an access code. OR
- Select **Pay with Credit Card or PayPal** if you are buying your access code now.
- Click the link at the bottom for **temporary access**, if you're waiting on financial aid.

7. Complete your account set up by entering your name (as Valencia College knows you), ATLAS email address, a username and password, and any other required information.

8. Click **Create Account.**

Congratulations, you are now ready to start learning Trigonometry Online through Pearson's MyMathLab.

For help with MyMathLab technical difficulties, click on **Help & Support** in the top right hand corner of the screen (while logged in.)

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Using MyMathLab Successfully

When you sign-in to our course, you will see a list of buttons on the left.

0. If you've never used MyMathLab, start by clicking on **Textbook** and work through the MyMathLab Orientation Questions to learn how to enter answers, use the math palette, and work with the graphing tools in the MyMathLab exercise window.

1. Click on **Textbook**; select the chapter and section you are ready to work on. Click on Multimedia e-text to read and work through the examples given in the section. In addition to links to each chapter, the **Textbook** page also includes direct links to the Table of Contents, Preface, Supplements Guide, Glossary, Solutions to Selected Exercises, Answers to Selected Exercises, Index of Applications, and Index.

2. Click on **Multimedia Library** to view animations, PowerPoints, and publisher videos for the course. There are links to additional online resources (containing video lessons) listed in the Online Help section of our Blackboard course, as well.

3. Click on **Pearson Tutor Services** to access free tutoring.

4. Click on **Tools for Success** for additional downloads and graphing calculator help.

5. Click on **Homework** to do practice problems for each section. Homework is a necessary part of learning math, but you will not be assigned a grade for your practice.

6. When you have completed the homework sections leading up to a quiz, click on **Quizzes & Tests** and take the assigned Quiz. Due dates are listed here, as well as in the calendar. You get at least 30 minutes for each quiz, and 3 attempts to get 80% or higher.

7. When you have completed the content for a test, and passed the Quizzes at 80%, click on **Quizzes & Tests**. If you hover over the green flag, you can see the prerequisites for each. Make sure you check these beforehand. You get 2 hours for each test.

8. Once you finish and submit your test, click on **Gradebook** to ensure that your test was submitted successfully. Your current average in the course can be found here by clicking on Show Overall Score on the top left. Next to your score, click **review** in order to see how you were scored for each question. If you think that you deserve more points than awarded, see **Scoring & Grievances** on p. 8 of the syllabus.

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Grading Criteria

Your grade in this class is determined by your on-line quizzes and tests, and an on-site cumulative final exam.

Grading Scale: 90-100%=A; 80-89% =B; 70-79%=C; 60-69%=D; Below 60%=F

Homework 0%: Completion of homework is crucial to success in this course. You need to spend considerable amount of time working practice problems in the homework section of MyMathLab before attempting quizzes. You may work homework problems repeatedly without penalty. The homework due dates* in MML are set as a guide to keep you on track, but you will be able to work homework after the scheduled due date. I encourage you to take advantage of the many online resources provided within MML and in Bb under Online Trig Help. If you are local, visit one of Valencia's Math Centers for help.

Quizzes 25%: You'll have 3-4 online quizzes between tests; generally, once a week that are found in the *Quizzes & Tests* section of MyMathLab (NOT in the *textbook* section). You have 30-45 minutes and 3 attempts for each quiz. Only your highest score for each quiz will be recorded. Your lowest quiz score of the term will be dropped.

Tests 55%: There are four online tests, each covering 2 chapters, found in the *Quizzes & Tests* section of MyMathLab. All tests are comprehensive with emphasis of the most recently completed material. Test problems are similar to homework and quiz problems or examples from the book. You will have 120 minutes to complete each test. Your lowest test grade will be replaced with your final exam grade, assuming it is higher. If you miss a test, it will automatically be your lowest test score. It is your responsibility to check the grade book to ensure that the test has been submitted successfully.

Tests & Quizzes are in the *Quizzes & Tests* section of MyMathLab and must be completed by 11:59 pm (E.S.T.) on the date specified in MyMathLab. There will be no extensions or exceptions. You can take them any time before the deadline. You will not be permitted to move on to the next quiz or test until one of the following criteria is achieved: (1) previous quiz at 80% or (2) appropriate sections of homework at 90%.

Students are expected to memorize the information found on p.14 (at the end of the syllabus), but will be permitted to use the Formula Sheet found on p.15. **This will be enforced for the final exam,** so it is important that you take quizzes and tests under the same conditions.

Final Exam 20%: The final exam is cumulative and must be taken at an approved proctored testing center. The test will be taken online in MyMathLab with a small set of paper questions that will count as extra credit. You must pass the final exam with a 60% (or above) in order to receive a passing grade (A, B, or C) in the course.

The final exam is to be taken in a proctored testing center on or before Tuesday, December 11th, 2014. A Valencia photo ID will be required at Valencia testing centers. If you will not be taking the final exam at a Valencia campus, then you must complete and submit the "Off-Campus Testing Site Request Form" to your instructor by September 30, 2014 so that an appropriate site can be approved and arrangements made. If a student does not submit an off-campus testing form, then the final exam will automatically be made available at the Valencia testing centers. Although there is no time limit, you are responsible for checking your testing center's hours in order to allow at least 2.5 hours for the final exam.

Progress Notices: Regularly, I will review grades and participation in assignments to check your progress. If I have concerns, you will receive a progress notice from me in your Bb messages. Neglect or failure to improve may result in a withdrawal.

Academic Honesty: All students are expected to be in complete compliance with Valencia Community College's policies on academic honesty. If any student is caught giving or receiving aid on a test or quiz, all students involved will receive a zero score for that particular assignment.

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Extra Credit Opportunities: You may earn (up to) 10 extra credit test points in two different ways.

1. by monitoring the **Homework Discussion Board** and fielding student questions for the chapter of your choice. This requires daily Blackboard access and a knack for helping others. **OR**
2. creating and posting a 2-part chapter review for all to use for the chapter of your choice. The first part is a review due the Friday before the chapter test is due, based on the homework and quizzes that you've already taken. Second, you'll submit an edited review the week before the final exam based on the chapter test. Your reviews should contain pertinent concepts, formulas, vocabulary, and practice problems. Include advice and memory tricks, as well! You'll post these in the **Homework Discussion Board** under the correct chapter.

You can find details for signing-up in the **Homework Discussion Board**. Make sure you sign-up early!

Scoring & Grievances: All quiz and test questions are scored electronically by MyMathLab. It is important that you read directions carefully and pay attention to rounding instructions and number formats. You are able to view all quizzes and tests immediately after your final attempt.

If you feel that a quiz or test question was scored improperly by the program (MML), message me in Blackboard with the following:

1. The quiz/test name and problem number
2. a picture or scan of your **original math work supporting the answer you entered in the quiz**, and
3. an explanation of why you think you deserve more points.

Partial credit will be awarded as deemed appropriate.

All final exams will be reviewed by the professor for partial credit. There is no need to submit work for the Final Exam.

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Course Outline & Due Dates

These deadlines (and more) can be found in your Blackboard and MyMathLab calendars.

Ch. 1 Quiz: 1.1-1.2	F, Aug. 29	
Ch. 1 Review Quiz	F, Sept. 5	
Ch. 2 Quiz: 2.1-2.3	F, Sept. 12	
Ch. 2 Review Quiz	F, Sept. 19	
TEST 1: Chapters 1 & 2, Sections 1.1-1.4, 2.1-2.5		T, Sept. 23
Ch. 3 Quiz: 3.1-3.2	M, Sept. 29	
Ch. 3 Review Quiz	F, Oct. 3	
Ch. 4 Quiz: 4.1-4.2	F, Oct. 10	
Ch. 4 Review Quiz	F, Oct. 17	
TEST 2: Chapter 3 & 4, Sections 3.1-3.3, 4.1-4.4		T, Oct. 21
Ch. 5 Quiz: 5.1-5.4	W, Oct. 29	
Ch. 5 Review Quiz	W, Nov. 5	
Ch. 6 Review Quiz	W, Nov. 12	
TEST 3: Chapters 5 & 6, Sections 5.1-5.6, 6.1-6.3		Sun, Nov. 16
Ch. 7 Quiz: 7.1-7.3	S, Nov. 22	
Ch. 7 Review Quiz (7.1-7.5)	T, Nov. 25	
Ch. 8 Quiz: (8.4)	T, Dec. 2	
TEST 4: Chapter 7 & 8, Sections 7.1-7.5, 8.5		F, Dec. 5
FINAL EXAM: Cumulative	R, Dec. 11	

*Note: It is the students' responsibility to work ahead of the scheduled due dates in order to build some flexibility into the schedule. There will be no extensions on any of the due dates. All quizzes and tests must be completed by 11:59 pm on the specified due date.

Other Important Dates – Fall 2014

Aug. 25	First day of classes
Aug. 31	Attendance Compliance Deadline
Sept. 1	College Closed, Labor Day
Sept. 30	Off-campus Testing Site Request Form Deadline
Oct. 7 & 9	College Nights
Nov. 7	**Withdrawal Deadline
Nov. 26-30	College Closed, Thanksgiving Break
Dec. 11	Final Exam Deadline

Resources

On-site

Valencia College provides access to many resources for extra help in your courses. The Academic Success Center is located in building 4 of the east campus.

The Math Support Center provides walk-in help to students and is a great place to do your homework! Tutors are available all hours that the ASC is open on a first-come, first-served basis. The math support center also has information and study sheets for most mathematical concepts.

The Information and Tutoring Desk in the foyer has TI-83 calculators and instructional videos available for check-out with a valid Valencia ID.

On-line

In Blackboard, you can pose homework questions to each other in the **Homework Discussion Board**, where you can also find peer-created chapter reviews. In the **Online Trig Help** link you'll find links to the following web resources.

Valencia's Math Help 24/7 www.valenciacollege.edu/math/liveScribe.cfm

Valencia Math professors have created pencasts and videos of common trig lessons to aid your learning. Click on **Trigonometry** to expand the topics. Some lessons have more than one professor's perspective, so don't hesitate to watch more than one!

Khan Academy www.khanacademy.org

The Khan Academy has video lesson on trigonometry (and many other academic topics!) as well as interactive learning tools. You can create an account if you want to save your progress. Or to get started, just click **Learn** in the top left corner of the home page.
For video lessons, click **Math > Trigonometry & Precalculus.**
For interactive practice, click **Knowledge Map** and navigate the knowledge map using the zoom and scan tools in the top left corner of the map. Find Trigonometry on the map, then zoom in to see individual topics to practice.

Math TV www.mathtv.com

Pat McKeague delivers quick video lessons on many trigonometry topics. Just click the subjects on the left to expand the lists of topics.

Online Math Tutoring through SmartThinking

Access links are available in our Blackboard course or on the front page of your Atlas account.

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Withdrawal: You should familiarize yourself with Valencia Community College's withdrawal policy. Students can only withdraw themselves from a course until the withdrawal deadline, November 7, 2014.

By the "Program Integrity and Documentation of Online Course Attendance" published by the U.S. Department of Education (ED) and adopted by Valencia College, any student registered in an online course must show attendance by participating in an "academically-related activity."

In this course, you will demonstrate attendance by performing ALL 3 of the following in the first week of class (August 25-31, 2014):

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3. Complete at least one section of assigned homework in MyMathLab with a minimum score of 80%.

If you do not meet the requirements stated above, you will be withdrawn as a No-Show due to non-compliance with the ED attendance policy.

Student Code of Conduct: Valencia Community College is dedicated to not only to the advancement of knowledge and learning, but also are concerned with the development of responsible personal and social conduct. Violation of any of Valencia's rules may lead to disciplinary action up to and excluding expulsion from Valencia. Disciplinary action could include being withdrawn from class, disciplinary warning, probation, suspension, expulsion, or other appropriate and authorized actions. You will find the Student Code of Conduct in the current Valencia Student Handbook. In addition, we ask that you follow college policy relating to children on campus.

Students with Disabilities: Students with disabilities who qualify for academic accommodations must provide a notification from the Office for Students with Disabilities (OSD 5-216) and discuss specific needs with me within the first two weeks of class. The Office for Students with Disabilities determines accommodations based on appropriate documentation of disabilities.

Disclaimer: Information given in this syllabus is tentative and subject to change at the instructor's discretion.

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Tips for Success in Mrs. Adams' Online Trigonometry Course

- Don't ONLY log in to MyMathLab; make sure to check Blackboard regularly for important announcements, personal messages, and student discussions in the Cyber Café or Homework discussion board.

- Look ahead at prerequisites (found in the MyMathLab gradebook) for upcoming assignments to ensure that you don't find that you're unable to take a quiz or test that's due in an hour.

- You are responsible for your own learning, so use your resources! A suggested list can be found on page 10. You are only alone if you don't seek help when you need it.

- Pay close attention to instructions on how to enter your answers in MyMathLab. i.e. syntax, number type, rounding, etc. These directions are usually in blue, below the answer field.

- After taking each test and checking its score, *review it* for credit earned. You can click *Review* next to your score in the gradebook. Often, you deserve partial credit and the computer didn't grant it to you. For information on requesting partial credit, see Scoring and Grievances on p. 8.

- Don't leave test or quiz problems blank. If you're not sure, try something, keep the work and submit it for partial credit. If it's left blank, it's worth nothing.

- Quizzes and tests are timed. Don't expect to 'wing it' by using your homework, notes, or text. If you can't do the problems without your resources before the test, then you're not ready for it.

- If you experience technical difficulties while attempting to use MyMathLab, you'll need help from Pearson, not your professor. Use the Help & Support link in MyMathLab immediately to resolve your issue. If your problem isn't fixed right away, email me to alert me of your challenges. DO NOT attempt to take quizzes or tests on a mobile device.

- Your final exam is a large portion of your grade and you must earn 60% or higher on it to pass the class. You will be provided the attached formula sheet (p.14), but will not be allowed to use your textbook or notes. You must memorize everything on p.13. Practice this form of testing throughout the course in order to avoid a rude awakening.

- Chapters 5&6 tend to be the biggest challenge to students. Make note of this part of the course in your calendar and be prepared to spend more time during these weeks.

- Volunteer for extra credit – participation increases your learning while earning you points. Details on page 8!

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For optimal success, you should **MEMORIZE** the information on this page.

Fundamental Trigonometric Identities

Reciprocal Identities

$\sin x = \frac{1}{\csc x}$

$\csc x = \frac{1}{\sin x}$

$\cos x = \frac{1}{\sec x}$

$\sec x = \frac{1}{\cos x}$

$\tan x = \frac{1}{\cot x}$

$\cot x = \frac{1}{\tan x}$

Quotient Identities

$\tan x = \frac{\sin x}{\cos x}$

$\cot x = \frac{\cos x}{\sin x}$

Pythagorean Identities

$\cos^2 x + \sin^2 x = 1$

$1 + \tan^2 x = \sec^2 x$

$\cot^2 x + 1 = \csc^2 x$

Negative Identities

$\cos(-x) = \cos x$

$\sin(-x) = -\sin x$

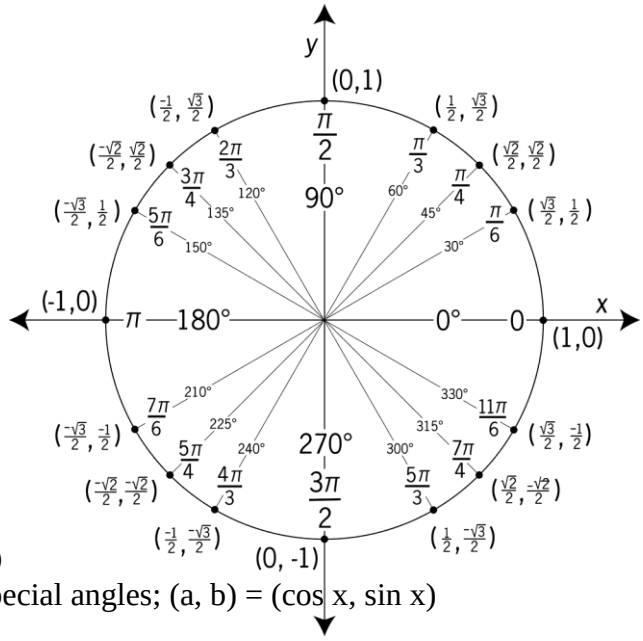
$\tan(-x) = -\tan x$

Cofunction Identities

$\sin(\frac{\pi}{2} - x) = \cos x$ $\quad$ $\cos(\frac{\pi}{2} - x) = \sin x$

$\tan(\frac{\pi}{2} - x) = \cot x$ $\quad$ $\cot(\frac{\pi}{2} - x) = \tan x$

$\sec(\frac{\pi}{2} - x) = \csc x$ $\quad$ $\csc(\frac{\pi}{2} - x) = \sec x$



The Unit Circle →

All special angles in degrees (multiples of 45° and 30°)
All special angles in radians (multiples of π/4 and π/6)
Exact coordinates of each point corresponding with special angles; (a, b) = (cos x, sin x)

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This sheet will be **provided** to you by the **Testing Center** with the final exam.

Double Angle Identities

$\sin(2\theta) = 2\sin(\theta)\cos(\theta)$

$\cos(2\theta) = \cos^2(\theta) - \sin^2(\theta)$
$= 2\cos^2(\theta) - 1$
$= 1 - 2\sin^2(\theta)$

$\tan(2\theta) = \dfrac{2\tan(\theta)}{1-\tan^2(\theta)}$

Half-Angle Identities

$$\sin\left(\frac{\theta}{2}\right) = \pm\sqrt{\frac{1-\cos(\theta)}{2}} \qquad \cos\left(\frac{\theta}{2}\right) = \pm\sqrt{\frac{1+\cos(\theta)}{2}}$$

$$\tan\left(\frac{\theta}{2}\right) = \pm\sqrt{\frac{1-\cos(\theta)}{1+\cos(\theta)}} = \frac{1-\cos(\theta)}{\sin(\theta)} = \frac{\sin(\theta)}{1+\cos(\theta)}$$

Sum and Difference Identities

$$\cos(\alpha+\beta) = \cos(\alpha)\cos(\beta) - \sin(\alpha)\sin(\beta) \qquad \cos(\alpha-\beta) = \cos(\alpha)\cos(\beta) + \sin(\alpha)\sin(\beta)$$
$$\sin(\alpha+\beta) = \sin(\alpha)\cos(\beta) + \cos(\alpha)\sin(\beta) \qquad \sin(\alpha-\beta) = \sin(\alpha)\cos(\beta) - \cos(\alpha)\sin(\beta)$$
$$\tan(\alpha+\beta) = \frac{\tan(\alpha)+\tan(\beta)}{1-\tan(\alpha)\tan(\beta)} \qquad \tan(\alpha-\beta) = \frac{\tan(\alpha)-\tan(\beta)}{1+\tan(\alpha)\tan(\beta)}$$

Identities to Rewrite Sums and Products

$$2\sin(\alpha)\cos(\beta) = \sin(\alpha+\beta) + \sin(\alpha-\beta) \qquad \cos(\alpha)+\cos(\beta) = 2\cos\left(\frac{\alpha+\beta}{2}\right)\cos\left(\frac{\alpha-\beta}{2}\right)$$
$$2\cos(\alpha)\cos(\beta) = \cos(\alpha+\beta) + \cos(\alpha-\beta) \qquad \cos(\alpha)-\cos(\beta) = -2\sin\left(\frac{\alpha+\beta}{2}\right)\sin\left(\frac{\alpha-\beta}{2}\right)$$
$$2\sin(\alpha)\sin(\beta) = \cos(\alpha-\beta) - \cos(\alpha+\beta) \qquad \sin(\alpha)+\sin(\beta) = 2\sin\left(\frac{\alpha+\beta}{2}\right)\cos\left(\frac{\alpha-\beta}{2}\right)$$
$$2\cos(\alpha)\sin(\beta) = \sin(\alpha+\beta) - \sin(\alpha-\beta) \qquad \sin(\alpha)-\sin(\beta) = 2\cos\left(\frac{\alpha+\beta}{2}\right)\sin\left(\frac{\alpha-\beta}{2}\right)$$