

IQP: Teaching Experience at Doherty Memorial High School in Worcester, Massachusetts

Spring 2011

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Chapter 1

EDUCATION REFORM ACT

The Education Reform Act of 1993 in Massachusetts began with the court case of Webby v. Dukakis in 1978. In this case the state of Massachusetts was sued by the public for unequal “spending for education among districts in the Commonwealth”

(<http://www.minnesotaspromise.org/publications/documents/Massedreformssummary.pdf>) By equalizing spending, children from all economic back grounds would have the same education and opportunities. In 1993, the Massachusetts Supreme Court declared that the state of Massachusetts had failed to provide equal education for students of all districts. The Supreme Court allowed the Massachusetts Legislature to fix the problem. (<http://forum-network.org/series/greater-boston-education-reform-series>)

In what became known as the Education Reform Act of 1993, the following standards were put into place: “standards for what all students should know and be able to do; standards for what the state and each municipality should contribute to each schools; standards to evaluate school performance; and standards for the professional performance of teachers and administrators.” (http://www.doe.mass.edu/edreform/1st_Imp/INTRODUCTION.html)

The Education Reform Act of 1993 resulted in three main changes: “funding, curriculum frameworks and assessments.” The changes in funding resulted in the state setting an “adequate” funding level of \$5,500 for each student. Every school district in the state reached the adequate

funding level by the year 2002. Poorer districts were given more assistance. Curriculum frameworks brought about a rule that students make educational advances and have certain skills upon completion of each year and graduation. The assessments put in place by the act consist of Massachusetts Comprehensive Assessment System (MCAS). The MCAS are given to students in grades 3 through 10. Students are required to pass these exams before graduating from high school. If large numbers of students are having trouble with these exams the Department of Education becomes involved.

<http://www.minnesotaspromise.org/publications/documents/Massedreformssummary.pdf>)

The Education Reform Act of 1993 also affected teachers. Strategic Goal IV is to “enhance the quality and accountability of all educational personnel.” (<http://www.rcmahar.org/about-us/school-committee-2/education-reform-act-of-1993/>) The first stage is the professional licensure standard which states that there are three standards: provisional certification, full certification and recertification. Provisional certification is to ensure potential educators sufficient content knowledge to teach. Within five years of receiving their provisional certification, teachers will “engage in of their formal professional training and obtain full certification.” (http://www.doe.mass.edu/edreform/1st_Imp/GOAL4.html) The final stage is recertification which is an ongoing requirement. Every five years all teachers are required to submit an individual development plan to their supervisor. This sets a minimum required amount of professional development to increase professional currency. The plan should be centered on improving student learning. This includes but is not limited to taking higher education courses, “in-service workshops, cooperative professional projects, mentoring, and peer coaching”

CURRICULUM FRAMEWORKS

The Curriculum Framework of Massachusetts focuses on “problem solving, communicating, reasoning and proof, making connections, and using representations.”

(<http://www.doe.mass.edu/frameworks/math/2000/final.pdf>, page 5) In problem solving the student must discover his or her own approach to solving the problem instead of using a generic step by step technique. This requires a higher level of thinking. In order to solve problems testing communication the student need to master “making convincing arguments and representing mathematical ideas verbally, pictorially and symbolically.”

(<http://www.doe.mass.edu/frameworks/math/2000/final.pdf>, page 5) Successful completion of reasoning and proof questions demand the pupil make “sophisticated arguments... [and] formal proofs.” (<http://www.doe.mass.edu/frameworks/math/2000/final.pdf>, page 5) Making connections demands that the student draw parallels between what is learned in math class and in his or her surroundings. Using representations demands students use “numerals or diagrams, algebraic expressions or graphs, or matrices that model a method for solving a system of equations.” (<http://www.doe.mass.edu/frameworks/math/2000/final.pdf>, page 6)

The main topics for high school students to focus on are “number sense and operations; patterns, relations, and algebra; geometry; measurement; and data analysis, statistics, and probability.”

(<http://www.doe.mass.edu/frameworks/math/2000/final.pdf>, page 76) Ninth and tenth graders focus on certain topics within these categories while eleventh and twelfth graders focus on other topics. In the area of number sense and operations freshman and sophomores study operations on

real numbers, simplifying expressions and approximating roots. Juniors and seniors focus on complex numbers and simplifying expressions.

THE MCAS EXAM

According to the Education Reform Act of 1993, the Massachusetts Comprehensive Assessment System (MCAS) must test all public high school students, including those with learning disabilities and “limited English proficient students.”

(<http://www.doe.mass.edu/mcas/overview.html?faq=1>) Students are tested in “English language arts, mathematics, and science and technology/engineering.”

(<http://www.doe.mass.edu/mcas/overview.html?faq=1>)

All tenth grade students must pass the English and mathematics portions as a part of their graduation requirements. In addition students must also pass one of “Biology, Chemistry, Introductory Physics, or Technology/ Engineering”

(<http://www.doe.mass.edu/mcas/overview.html?faq=4>) to graduate. Also, high schools in the state of Massachusetts are held accountable for increasing the number of students proficient in reading and mathematics. The goal of the No Child Left Behind Law is to have all students “be proficient in Reading and Mathematics by 2014.”

(<http://www.doe.mass.edu/mcas/overview.html?faq=1>)

The math portion of MCAS for tenth graders consist of multiple choice questions, short-answer questions and open-response questions. Multiple choice questions are machine graded while two independent scorers evaluate the open-response and short-answer questions. The results are tallied and students are put into one of three categories: failing, proficient or advanced.

<http://www.doe.mass.edu/mcas/overview.html?faq=3>)

The results are used to follow students and determine which students may need additional support or instruction. Results also allow educators to pinpoint problems and successes in student's understanding. This information is then used to alter the curriculum.

Identify strengths, weaknesses, and gaps in curriculum and instruction.

<http://www.doe.mass.edu/mcas/overview.html?faq=4>)

HISTORY OF DOHERTY HIGH

Twenty acres of land that was a part of Elm Park were given to the Worcester School Department in the year 1960. The city of Worcester used the land to build Doherty Memorial High School which is still in used today.

<http://www.worcesterma.gov/dpw/parks-rec/city-parks/elm-park>) Both Worcester Classical High School and Worcester Commerce High School were replaced by Doherty Memorial High School in the fall of 1966 (<http://doherty.worcesterschools.org/?sessionid>) Students were "culled from North, South, Classical, Commerce and Burncoat Highs."

<http://www.worcestermass.com/places/highschool.shtml>) The students' sports teams at Doherty are called the Highlanders. "The name "Highlander" was coined by Russel C. Knight (year book designer and printer) and was accepted by the first principal (Dr. John J. Connor Jr) who is now super intendent ... the charging night was suggested by Dr. Connor and first placed on paper by Al Banx head cartoonist of the Worcester Tellegram and Evening Gazatte." (The 1967

HiLander-Yearbook of Doherty Memorial High School. Worcester MA, Co-Editors Deborah Laipson and Andrew Baker)

DEMOGRAPHICS OF DOHERTY HIGH

SOCIO-ECONOMIC

At Doherty Memorial High School 697/1473 or 47.3% of students eligible for free or reduced lunch.

(http://doherty.worcesterschools.org/modules/groups/homepagefiles/cms/929647/File/doherty_high.pdf?sessionid=4ee6e4862e80644958d5453a025a072a) This can be compared to 70.1% of students in the district of Worcester and only 34.2% of students in Massachusetts.

(<http://profiles.doe.mass.edu/profiles/student.aspx?orgcode=03480000&orgtypecode=5&leftNavId=305&>) In addition 38.4% of Doherty Memorial High School Students are considered low-income versus 70.1% of students in Worcester district and 34.2% of students in the state of Massachusetts. (<http://www.city-data.com/school/doherty-memorial-high-ma.html>)

(<http://profiles.doe.mass.edu/profiles/student.aspx?orgcode=03480000&orgtypecode=5&leftNavId=305&>) Of the 1327 students at Doherty High School, 73 have been identified as homeless.

(<http://profiles.doe.mass.edu/profiles/student.aspx?orgcode=03480000&orgtypecode=5&leftNavId=300&>) This number may be significantly higher as many parents do not inform school officials when a student becomes homeless. Also the number of homeless students does not include students who have been placed at an alternative school. (Thompson, Judy)

MCAS PERFORMANCE

While tenth grade students are relatively more affluent than other students in Worcester they scored they score similarly on the MCAS English exam and on the MCAS math exam.

Overall tenth grade students from Doherty Memorial High School scored similarly to the state average on the English portion of the MCAS exam. 32% of tenth graders at Doherty Memorial High School received a score of warning/failing or needs improvement in English. As a comparison, 28% of Worcester students and 29.4% of students in Massachusetts received the same score. The percentage of students scoring proficient or advanced was 67% at Doherty High versus 68% in Worcester and 70.6% for Massachusetts overall. (<http://www.city-data.com/school/doherty-memorial-high-ma.html>)

(http://profiles.doe.mass.edu/mcas/performance_level.aspx?orgcode=03480000&orgtypecode=5&linkid=32&dropDownOrgCode=2)

Tenth graders at Doherty Memorial High School scored slightly below the average math scores of students in Massachusetts. 37% of tenth graders at Doherty Memorial High School scored either warning/failing or needs improvement on the mathematics part of the MCAS exam. 41% of students in Worcester and 30.6% of students in Massachusetts received the same scores. At Doherty 62% of students received a score of proficient or advanced while the state of Worcester averaged 59% and Massachusetts averaged 69.4%. (<http://www.city-data.com/school/doherty-memorial-high-ma.html>)

(http://profiles.doe.mass.edu/mcas/performance_level.aspx?orgcode=03480000&orgtypecode=5&linkid=32&dropDownOrgCode=2)

MASSACHUSETTS COMPARED TO OTHER STATES

The National Assessment of Educational Progress (NAEP) is the largest nationally representative and continuing assessment of what America's students know and can do in various subject areas.

(<http://nces.ed.gov/nationsreportcard/>) In 2011, Massachusetts students in grades four and eight did significantly better than the national average on both the mathematics and reading exams.

50.5% of fourth grade students in Massachusetts scored at or above proficient in reading compared to 32.5% nationally. 58.5% of Massachusetts fourth graders scored at or above proficient in math while only 40% of students nationally earned this score. 46% of eighth grade students in Massachusetts scored at or above proficient for reading while only 31.5% of students nationally had the same score. 51.5% of Massachusetts eighth graders met the requirements for at or above proficiency in math while nationally only 33.5% scored this high.

<http://www.doe.mass.edu/mcas/naep/results/default.html>

POST SECONDARY ACTIVITY

While many Doherty High School students go on to college, 35 or 2.5% dropped out during the 2009 to 2010 school year.

(http://cra.worcesterschools.org/modules/locker/files/get_group_file.phtml?gid=1577640&fid=10391517) Of the seniors that graduate from Doherty Memorial High School, 50% go on to a public or private 4-year college. The average percent of students attending a 4-year college for the state of Massachusetts is 60%. 37% of Doherty graduates go on to a two year college versus

22% of students in Massachusetts. 68.1% of all high school graduates in the United States attend college.(<http://www.bls.gov/news.release/hsgec.nr0.htm>) The average percent of students entering the military after graduation is 2% for both Doherty Memorial High and the state of Massachusetts.

(<http://profiles.doe.mass.edu/profiles/student.aspx?orgcode=03480512&orgtypecode=6&leftNavId=307&>)

Chapter 2

While student teaching at Doherty Memorial High School in Worcester, Massachusetts, I taught one section of Algebra I and two sections of Algebra II. The Algebra I class was a lower level class in which most of the students were freshmen. Algebra I was the first math course in high school for these students. It would serve as their foundation for future classes including Geometry and Algebra II

Both Algebra II classes were honors levels classes. These students were primarily juniors and sophomores. The honors students had already completed both Algebra I and Geometry. Some were concurrently taking Advanced Placement Statistics. The material taught in Algebra II prepared the student to go on to take Trigonometry, Pre-Calculus and eventually AP Calculus.

Course Syllabi

In the Algebra I I taught the focus was on “solving, graphing and interpreting linear and quadratic functions.” More specifically the students were expected to: gather, plot, and interpret data; generalize, apply, and predict information from patterns, tables, and graphs; evaluate and solve multi-step equations; evaluate formulas to express relationships given in written, tabular, and graphic form; find measures of Central Tendency, and represent data including scatter plots and stem plots; demonstrate and ability to manipulate numbers, use order of operations, and integers; and solve and work with linear functions, linear equations, slope, intercepts, and quadratics.

My Algebra II class was a “bridge from Algebra I to more advanced topics in mathematics”. According to the syllabus provided by Doherty High School, these students were assessed on their ability to: explore the relationship between tables, graphs, and equations for linear, quadratic, and exponential functions; study the concept of relations/functions and their inverses using function notation, tables, graphs, equations, and composition; continue to practice algebraic skills including addition/subtraction/multiplication/division of polynomials, factoring quadratics, simplifying rational expressions, mathematical conversions; explore and solve problems using trigonometry and the unit circle; utilize the TI-83 graphing calculator and scientific calculator for exploration/analysis of mathematical concepts; and review test taking strategies & problem solving for SAT/ACT exams.

These criteria are based off material that will be tested on the MCAS Exam and also on the District –Wide Reading Skills Across the Curriculum. The reading skills program has eight key components including: preview, ask questions, activate prior knowledge, make connections, visualize, draw inferences, distinguish key ideas, and use fix-up strategies.

Chapter 3

Upon completing my observation hours I began teaching Algebra I. I taught this course Monday through Friday from February 28, 2011 to April 6, 2011. In Algebra I, we used McDougal Littell Algebra 1. Once I became comfortable teaching Algebra I, I began teaching two sections of Honors Algebra II. Here we used McDougal Littell Algebra 2. I also taught this course Monday through Friday, March 7, 2011 to April 6, 2011. I have included detailed descriptions of my lesson plans below which give examples of my material and how they met their objectives. All of my materials are included in an appendix.

Algebra 1

February 28

The week of February 28th, 2011 was my first week student teaching. My Algebra 1 class focused on Chapter 6 which covers solving and graphing linear inequalities. This helped the student's prepare for the Curricular Framework Standard 10.P.6. Students in grades 9 through 10 are tested on "Solving equations and inequalities including those involving absolute value of linear expressions and applying these solutions to the problems. On Monday and Thursday, students were given homework from the text book on Graphing Absolute-Value Equations and Graphing Linear Inequalities in Two Variable respectively. A worksheet was given on Tuesday. (see appendix) There was no class on Wednesday due to a conference on English Language Learners.

March 7

During the week of March 7th, 2011, my Algebra 1 class focused on solving inequalities by using addition, subtraction, multiplication and division. On Monday and Tuesday, students learned more on graphing linear inequalities in two variables, as many students had difficulty with this topic. Corresponding homework from the text was given. Wednesday we concentrated on word problems and homework from the book was given to reinforce this concept. A quiz was given on Thursday, March 10th. (see attached) On Friday we went over solutions for Thursday's quiz.

April 4

For the first full week in April, my Algebra 1 class expanded their knowledge of solving systems of linear equations. Prior to this week students were limited to using the method of graphing to solve systems of linear equations. On Monday I taught substitution. This topic was reinforced with text book homework for Monday night and a worksheet for Tuesday night. On Wednesday we moved onto elimination. Students had homework from their text book Wednesday night followed by a worksheet on Thursday. In class on Friday I gave students a series of linear systems of equations in which they had to choose which method to use to solve the system.

Algebra 2

March 21

For the third week in March we began the study of trigonometry with right triangles. Radian measure was introduced and we practiced converting from degrees to radians and vice versa. The students became more familiar with radians by using them in trigonometric functions. I also introduced trigonometric functions with non-right triangles. Per Ms. Razzaq's suggestion, no homework was given for this week as sophomores were taking the MCAS Tuesday, Wednesday and Thursday. The juniors in the class were given a study hall period Wednesday and Thursday .

April 4

During the week of April 4th we continued the study of trigonometry. Special care was taken to ensure that sophomores who were taking the MCAS exam were caught up. Inverse trigonometric functions and the laws of sines and law of cosines were introduced. Text book homework was given Monday. Worksheets were assigned for homework Tuesday, Wednesday and Thursday.

<http://cphs.dadeschools.net/departments/mathematics/ebooks/alg1mcd/Source/>)

Chapter 4

When I first began my observations at Doherty Memorial High School I was shocked. I came from a small upper middle class town in Connecticut where I attended the local public high school. I was accustomed to honors classes where students were respectful and eager to learn. When I started at Doherty Memorial High School I student taught three of Ms. Razzaq's classes. One was a lower level Algebra I class and two were honors Algebra II classes. In observing Ms.'s Razzaq Algebra I class I learned a whole other world existed. Here some students were more interested in their cell phones and socializing in class than in the material presented. I soon realized this was not what I expected and I would have to change my methods, materials and approaches to reach these students.

First I had to change my methods. In the beginning of my student teaching experience, I spent many hours creating PowerPoint slides that included new material and definitions as well as examples for the students to try on their own or in groups. While I like to learn from PowerPoint slides my students preferred using the dry erase boards. Often students didn't have enough time to copy down what was in the PowerPoint slide before I moved on to the next slide. I then had to go back to the first slide which caused confusion for some other students and disrupted the flow of my lesson. When using a dry erase board a teacher can leave material up for students to copy on one board while giving relevant examples on the adjacent board. Another advantage of using white boards is it is easier for a student to catch up if they have not been paying attention the entire time because the material stays on the board longer. If I had to start over again I would talk to colleagues to get their ideas on teaching methods and the use of PowerPoint. I would also consider surveying the class to determine student preference of PowerPoint versus dry erase

boards.

My approaches were also altered to my students at Doherty High School. In the beginning of my student teaching experience I became aware that I need to change the way I engaged all students when doing examples as a class. At first I asked for volunteers to come to the board to do problems. I quickly realized that the same few students were always volunteering. One student who always volunteered even said to me, "Miss you know there are other students in the class too." I knew I needed to involve other students but when called on, many of them refused to come to the board. I discovered that I could get reluctant students to participate by saying, "If you don't want to come to the board can you tell me what to do from your seat?" This option appealed to students who were unsure of themselves and did not want to be embarrassed in front of the class. Sometimes I also told the students if they do one problem, either on the board themselves or with me, they could pick the next person to do a problem. This made the students excited and they were willing to do a problem if it meant they could call on one of their friends for the next problem.

My approach to discipline also changed. At first, I was very nervous and apprehensive in front of the class. I had never before spoken in front of a group of thirty people I did not know. As a result I was not very strict. I wanted to students to like me and figured if I treated them nicely and with respect they would do the same for me. Instead my students learned that they could walk all over me and treat the class as a free period. Students would often use their cell phones or talk to one another while I was trying to teach.

During a quiz one student was sending a text message on her phone. I asked her to give me the phone and said she could have it back at the end of the period. Instead of complying she said, "Don't touch my phone with your crummy hands." I tried to avoid conflict and told the student that she could place the phone in one of the drawers in my desk. She still refused. I tried to take the phone from her and accidentally bumped into her arm. She began saying that I hit her. I knew the situation was out of control. I looked across the hall to see if my mentor, Ms. Razzaq, was there. Unfortunately, she was not. I reluctantly allowed the student to keep her phone for the time being and during passing time I asked Ms. Razzaq what I should do. She told me to fill out a teacher referral form (see attached) and the student received a three day out of school suspension. In retrospect, when I become a teacher I will have a more defined cell phone policy. There will be no cell phone use in my classroom. If I find a student is using his or her phone during my class I will give a warning and tell them to put it away. If I see the cell phone again I will take it away until the end of the school day, at which point I will discuss the problem with my student. If this continues to be a problem I will discuss this with my colleagues and follow up with a parent phone call.

This taught me that I needed to be stickier to have more control of the class. I began to move students' seats if they were talking. I first gave a warning that they needed to face front and pay attention. After the warning if they still were not behaving, I moved their seat so they could not talk to their friends. Ms. Razzaq suggested if this still did not work I would send the student to the class room next door to remove them from the situation. This was very effective as most students did not want to be away from their friends or leave the classroom.

I also implemented a reward system. If the students behaved all week we could play a game for the last fifteen minutes of class on Friday. While this did mean we would lose a little class time

on Friday, it was well worth it. We actually were able to get through more material this way because the students were on task all week. I also found that students would work harder when praised. While the students were doing independent work at their desks I would walk up and down the aisles giving praise when students were getting problems right. When I saw a student struggling I would say, "You are almost there. Can I help you a little bit?" By walking around when students were doing independent work I could see who had a good understanding of the material and who needed more help. By doing this I kept the students on task. This also helped me determine when I should go back to the board and go over the material for the whole class again.

I also adapted the material taught for my students. At first I tried to give students a variety of problems from the text. Some students became frustrated by the more difficult problems and gave up. While there were certain topics that had to be covered I could control the difficulty of problems within the given topics. I created worksheets or selected specific examples in the text in order to adjust the level of challenge. When I began a new section or chapter, I designed the problems to be a little easier. As we dove deeper into the material, I gradually increased the difficulty of problems. By using this approach students worked on increasingly difficult problems without getting discouraged.

While I started with easier problems a few students still could not fully grasp what was being asked of them. I offered extra help during my prep period and after school. Here I was able to alter the material even more and adapt my explanations to specific students' needs. For example, instead of asking a student to graph a linear equation I asked, "What should we do first?" or

“What is the slope here?” By breaking up the problem into several smaller problems my students were able to get a better grasp on the material.

Knowledge of my students came to improve my teaching as I saw some of my students struggling with topics they should have mastered in earlier classes. For example one student in my Algebra I class did not understand negative numbers. I spent a few hours after school with him and he finally began to understand. I was overjoyed that he had made such gains. This taught me patience and the lesson that anyone can learn. I improved my teaching by gaining patience.

Chapter 5

When creating tests and other materials, including quizzes, homework assignments and do-nows, I kept many things in mind to ensure these materials were appropriate and useful. I made tests and quizzes fair and reflective of the MCAS exam. I also made group work during class time more meaningful by assessing the classes' understanding.

My tests and other tools were appropriate and useful. When writing a test I made sure to include at least one question from each topic or sub topic discussed. This was appropriate as every question was based off what was discussed and practiced in class. My students appreciated this, as they knew exactly what to go over when studying. A day or two before each exam I spent a majority of class time reviewing relevant material. I did not give homework the night before the test to ensure that my students would have time to review. However if a student needed additional practice I stayed after school and made up example problems the student(s) could practice. I did not give out answers but was there to offer guidance when students became stuck. These extra help sessions ensured everyone was ready for the test. I also wrote the test, and my lesson plans, to reflect what the MCAS would be testing. This ensured that the students would succeed not only in my class but also on the MCAS exam.

I also made class exercises more useful. While the students were working in small groups I would walk up and down the aisles to evaluate the class's understanding. If enough people were having trouble I would have the students stop working in groups temporarily while I went back

the board to explain the topic in a different manner. This made group work more useful as I could determine if the level of comprehension.

Conclusion

I met the Five Standards for Teaching set by the Massachusetts Department of Elementary and Secondary Education. The first standard is that the teacher plans curriculum and instruction. I based my lesson plans off the material tested by the MCAS exam. When preparing my lesson plans I began by introducing the topic using concepts and vocabulary, often through the use of PowerPoint. After this explanation I gave a few examples. I then gave student the chance to show me what they learned or did not learn through individual or group work and by doing problems on the board. I then determined whether to continue to move on to harder examples or to go back and explain the topic in another way. We deciding what problems to assign for homework, I often started out with easier problems and then moved on to more complex ones. In both of my Algebra I class and my Honors Algebra II class I gave one or two challenge problems at the end of the problem set to encourage higher level thinking.

The second of Standard of Teaching is that the teacher delivers effective instruction. The requirements under this standard are broken down into the teacher communicates high standards and explanations when beginning the lesson, carrying out the lesson, extending and completing the lesson, and evaluating student learning. At the start of each lesson I made it clear that I expected each student to do his or her best. The standards also encourage teachers to use engaging ways to begin a new unit. I engaged my students by using their names or names of area attractions in world problems. For example, one question I asked was: Megan's record is scoring 30 points in a basketball game. So far Johana has scored 13 points. How many points does Johana need to break Megan's record? Everyone in the class was eager to see if Johana

could surpass Megan in a game they could identify with. This not only grabbed their attention but also kept them interested in the material.

I continued to hold my students to high standards when carrying out each lesson. I used a balanced approach and encouraged reading and writing through the use of word problems. I also implemented content-based and content-oriented techniques which included direct instruction, practice, discussion and cooperative learning.

(<http://www.doe.mass.edu/lawsregs/603cmr7.html?section=08>) Furthermore I displayed adequate knowledge of material by working out examples on the board and by answering all questions. Instructional technology was used through the use of TI-83 graphing calculators as well as through PowerPoint presentations and projector.

I delivered effective instruction by holding high standards and explanations when extending and completing the lesson. I assigned relevant homework whether it was through problems selected from the text or through questions I wrote. This allowed me to evaluate student progress while advancing their learning. I also provided regular feedback to students either orally either during or after class and through comments written on student work. I provided many opportunities for students to display competence including but not limited to in class work, both group and individual, homework, quizzes, tests and do-nows. Do nows are problems from previous lessons that students are expected to complete when they come into the classroom. This provided structure for the class and allowed me to gauge the level of understanding for foundation topics.

I held the same high level of standards through my evaluation of student learning. I accurately

measured student progress and achievement through in class work including student work on the boards as well as more formal assessments including do-nows, quizzes and tests. I also made my evaluations of each student available to the student and his or her parents or guardians as well as to other school personnel through an online grade book used by Doherty Memorial High School.

The third standard set forth by the Massachusetts Department of Elementary and Secondary Education is managing classroom climate and operation. I created an environment conducive to learning through discipline. If a student misbehaved I moved his or her seat. If the problem continued I would have to student move to the adjacent classroom. This minimized distraction for other students who were trying to learn. I also managed classroom routines and procedures without loss of significant instructional time. While students were working on their do-nows I went around the room and checked student homework. I then used this information to take attendance thus minimizing the amount of time wasted. I also created physical environments appropriate to different learning activities. For example, when students were doing individual work or I was teaching at the board the student desks were arranged in rows. However when doing group work students put desks together in groups of four to five.

Promoting equity is the next standard for teachers. I treated all of my students as equal and expected everyone to do their best. I encouraged them, saying that everyone could succeed if they put in the effort. It is important to stress effort rather than talent. For example if you always tell a student that they are talented or gifted, they will feel that they are no longer smart when they do not do as well as they thought they would. However, if you stress hard work and effort, when a student performs at a lower than expected the teacher can reinforce that with more effort

the student can succeed. By stressing effort over talent, students have a higher self-worth and are encouraged to do better the next time rather than giving up.

The last standard is that the teacher must meet professional responsibilities. I understand that moral responsibilities come with being a teacher. Students look up to me and I must be a good role model. I do not have double standards. If students are expected to follow a dress code I follow it as well. If students are not allowed to have cell phones out in class, I keep my cell phone off and in my bag. I also follow the rule that students must be quiet and listen to morning announcements. I also must accept my legal responsibilities and follow rules set forth by the state of Massachusetts and by the federal government.

I convey knowledge and enthusiasm for mathematics as I always come to class eager and excited to share my knowledge. I am also interested in new math theories or research and read new articles related to this on the Internet. I often collaborate with other teachers in the math faculty room. I ask for advice on improving my lessons, writing exams, and how to reach certain students.

I reflect critically on my teaching experience and have plans for the future. I would like to further my professional development through attending teacher workshops. I would like to increase the percentage of students passing the MCAS exam through my lesson plans and also through holding a series of extra help sessions for students who need a little more instruction and practice. I also hope to one day become head of the math department. In addition I would like to start up math club for interested students. I have always wanted to become certified through the

College Board as an Advanced Placement teacher. I would like to teach both AP Statistics and AP Calculus and possibly teach at a local college.

Appendix

- Algebra I
 - Syllabus
 - Lesson Plans
 - PowerPoint
 - Homework
 - Homework Check List
 - Quizzes and Tests
 - Student Work
 - Teacher Referral Form

- Algebra II
 - Syllabus
 - Lesson Plans
 - PowerPoint
 - Homework
 - Homework Check List
 - Quizzes and Tests
 - Student Work

- Practicum Log

Works Cited

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Your Name
Your email address

Worcester Public Schools

Course Title: Algebra 1

Course Description:

Students will focus on the Grade 9 Massachusetts Mathematics Curriculum Framework. Major emphasis includes solving, graphing and interpreting linear and quadratic functions. Connections between Algebra, Geometry and Data will be explored. Students will investigate real world problems and apply number theory and rules of operations to the solution. Parallels and differences between linear and non-linear functions will be addressed.

Course Objectives:

Students will:

- Gather, plot and interpret data
- Generalize, apply, and predict information from patterns, tables, and graphs
- Evaluate and solve multi-step equations
- Evaluate formulas to express relationships given in written, tabular, and graphic form
- Find measures of Central Tendency, and represent data including scatter plots and stem plots
- Demonstrate and ability to manipulate numbers, use order of operations, and integers
- Solve and work with linear functions, linear equations, slope, intercepts, and quadratics

Essential Questions:

1. How does the "unit rate" translate into linear functions?
2. What are the similarities and differences between linear and non-linear functions?
3. How does slope appear in real world situations?

Texts: McDougal Littell, Algebra 1 Concepts and Skills, 2004

District-Wide Reading Skills Across the Curriculum

- **Preview** (survey) – note major elements such as organization, vocabulary, summary, and graphics
- **Ask Questions**-question the text, author and self
- **Activate Prior Knowledge**- use what is already known to enhance understanding of what is new in the text
- **Make Connections**-link text to self, text to world and text to text
- **Visualize**-use sensory images to create a mental picture of the scene, story, situation, or process and involve oneself in it.
- **Draw Inferences**- go beyond the given information to determine patterns and relations among and between data values
- **Distinguish Key Ideas**- recognize main idea and key concepts
- **Use Fix -Up Strategies**- monitor own understanding by pausing to think, re-read, consider what makes sense, restate in own words

Your Name

Your email address

Contextual Vocabulary:

- Linear
- Quadratic
- Measures of Central Tendency

Insert Grading Policy and other rules unique to your classroom here (such as Make-Up or Extra Help)

Students will:

- Gather, plot and interpret data
- Generate, apply and model information from patterns, tables and graphs
- Analyze and solve multi-step equations
- Analyze functions to compare relationships given in written, tabular, and graphic form
- Find measures of Central Tendency, and represent data including scatter plots and stem plots
- Demonstrate the ability to manipulate numbers, use order of operations, and integers
- Write and work with linear equations, linear inequalities, slope, intercepts, and constants

Students will:

- How does the "unit rate" translate into linear functions?
- What are the similarities and differences between linear and non-linear functions?
- How does slope appear in real-world situations?

Algebra 1

Student Name _____

Parent/Legal Guardian _____

Teacher: Razaq

WEEKLY LESSON PLAN
Doherty Memorial High School
Worcester Public Schools

Department: Mathematics

COURSE: Algebra 1 Week of: February 28, 2011

Weekly Objectives: Students will find the intercepts of the graph of an equation. Students will use intercepts to graph a linear function. Students will also use the graph to determine the intercepts and the meaning of the intercepts in the context of a word problem.

Monday	Tuesday	Wednesday	Thursday	Friday	Notes/Comments: There will be no class on Wednesday due to a conference on ELL students
Framework Standard #(s) 10.P.6 SIP MCAS/Accuplacer Do Now	Framework Standard #(s) 10.P.6 SIP MCAS/Accuplacer Do Now	Framework Standard #(s) SIP MCAS/Accuplacer Do Now	Framework Standard #(s) 10.P.6 SIP MCAS/Accuplacer Do Now	Framework Standard #(s) 10.P.6 SIP MCAS/Accuplacer Do Now	
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Homework: 359 (6-9) (10,13,14,15)	Homework: Worksheet	Homework:	Homework: 366 (3, 5, 7, 9, 11, 13, 15, 17)	Homework:	



Teacher: Razzag

WEEKLY LESSON PLAN
Doherty Memorial High School
Worcester Public Schools

Department: Mathematics

Week of: March 7, 2011

Weekly Objectives: Students will learn how to solve inequalities using addition, subtraction, multiplication and division. Students will also be responsible for solving multi-step and compound inequalities. Once an inequality has been solved students will graph the result. Word problems using inequalities will also be covered.

Monday	Tuesday	Wednesday	Thursday	Friday	Notes/Comments: On Thursday, March 10 a quiz will be given on Addition, Subtraction, Multiplication and Division of Inequalities
Framework Standard #(s) 10.P.6 SIP MCAS/Accuplacer Do Now	Framework Standard #(s) 10.P.6 SIP SIP MCAS/Accuplacer Do Now	Framework Standard #(s) 10.P.6 SIP SIP MCAS/Accuplacer Do Now	Framework Standard #(s) 10.P.6 SIP SIP MCAS/Accuplacer Do Now	Framework Standard #(s) 10.P.6 SIP SIP MCAS/Accuplacer Do Now	
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Homework: 366 (3, 5, 7, 9, 11, 13, 15, 17)	Homework: Page 366 (19, 21, 23, 25, 29, 31, 33, 37)	Homework: 372 (3, 7, 9, 17, 21, 23, 29, 31, 37)	Homework:	Homework:	

WEEKLY LESSON PLAN
Doherty Memorial High School
Worcester Public Schools

Teacher: *Razzaq*

Department: *Mathematics*

COURSE: Algebra 2 Week of: March 21, 2011

Weekly Objectives : Students will review trigonometry with right triangles and radian measure. Students will also begin evaluating trigonometric functions of any angle.

Monday	Tuesday	Wednesday	Thursday	Friday	Notes/Comments
Framework Standard #(s) 12.G.1 SIP MCAS/Accuplacer: Do Now	Framework Standard #(s) 12.G.1 SIP MCAS/Accuplacer: Do Now	Framework Standard #(s) 12.G.1 SIP MCAS/Accuplacer: Do Now	Framework Standard #(s) 12.G.1 SIP MCAS/Accuplacer: Do Now	Framework Standard #(s) 12.G.1 SIP MCAS/Accuplacer: Do Now	Sophomores will be taking MCAS Tuesday, Wednesday, and Thursday. A study hall period will be given to juniors Wednesday and Thursday.
Methodologies					
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Homework :					
					Homework : Worksheet

WEEKLY LESSON PLAN
Doherty Memorial High School
Worcester Public Schools

Teacher: **Razzaq**

Department: *Mathematics*





Week of: April 4, 2011

COURSE: Algebra 1
Weekly Objectives: Students will continue solving linear equations and will use substitution and elimination.

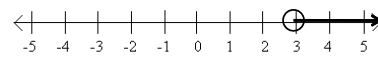
Monday	Tuesday	Wednesday	Thursday	Friday	Notes/Comments:
Framework Standard #(s) 10.P.8 SIP MCAS/Accuplacer: Do Now	Framework Standard #(s) 10.P.8 SIPSP MCAS/Accuplacer: Do Now	Framework Standard #(s) 10.P.8 SIPSP MCAS/Accuplacer: Do Now	Framework Standard #(s) 10.P.8 SIPSP MCAS/Accuplacer: Do Now	Framework Standard #(s) 10.P.8 SIPSP MCAS/Accuplacer: Do Now	
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Homework: 4:39 (3-17 odd)	Homework: Worksheet	Homework: 4:47 (3-13 odd)	Homework: Worksheet	Homework:	

6.1 Solving Inequalities Using Addition and Subtraction

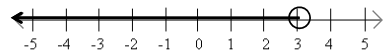
- Do-now (10.P.2)
Graph a line with a positive slope
Graph a line with a negative slope
Graph a line with an undefined slope
Graph a line with a slope of 0
- Homework
359 (7, 9, 13, 15, 19, 21)

	Greater Than
	Greater Than or Equal To
	Less Than
	Less Than or Equal To

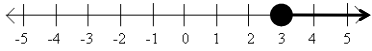
$$x > 3$$



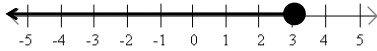
$$x < 3$$



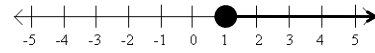
$$x \geq 3$$



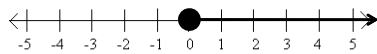
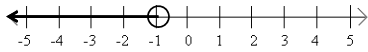
$$x \leq 3$$



Write the Inequality



Write the Inequality



Graph the Inequality

$$x \leq 2$$

$$x > -4$$

Graph the Inequality

$$x < -5$$

$$x \geq 1$$

Equivalent Inequalities

- Equivalent inequalities are inequalities that have the same solution

Addition Property of Inequality

- Adding the same number to each side of an inequality produces an equivalent inequality
- If $a > b$, then $a + c > b + c$
- If $a < b$, then $a + c < b + c$
- If $a \geq b$, then $a + c \geq b + c$
- If $a \leq b$, then $a + c \leq b + c$

Subtraction Property of Inequality

- Subtracting the same number to each side of an inequality produces an equivalent inequality
- If $a > b$, then $a - c > b - c$
- If $a < b$, then $a - c < b - c$
- If $a \geq b$, then $a - c \geq b - c$
- If $a \leq b$, then $a - c \leq b - c$

Are the following equivalent inequalities?

- $x < 3$ and $x + 2 < 3 + 2$
- $x > 1$ and $x + 5 > 1 + 4$

Solve and graph the following

- $x + 6 \leq -2$

Solve and graph the following

- $x + 5 > 3$

Solve and graph the following

- $x + 2 < -3$

Solve and graph the following

- $x+3.5 \geq 3.5$

Solve and graph the following

- $x+7\frac{1}{4} < -4$

Solve and graph the following

- $x-2\frac{3}{4} \leq 0$

Solve and graph the following

- $x+(-3) \geq 5$

Solve and graph the following

- $x - (-4) > -2$

6.1 Solving Inequalities Using Addition and Subtraction- Part 2

- Do-now

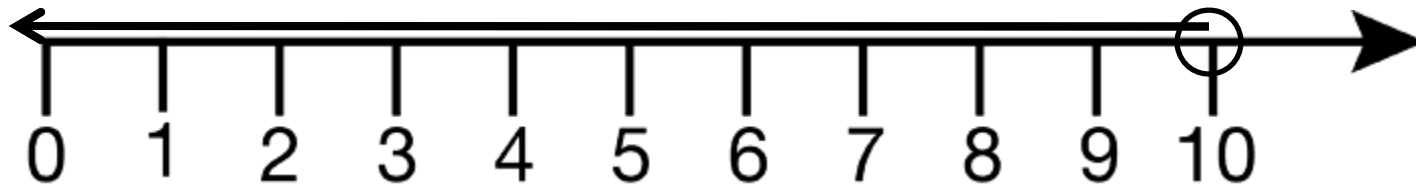
Give an equation and graph a line parallel to
 $y=3x+2$

Give an equation and graph a line
perpendicular to $y=\frac{1}{2}x-4$

- Homework: Worksheet

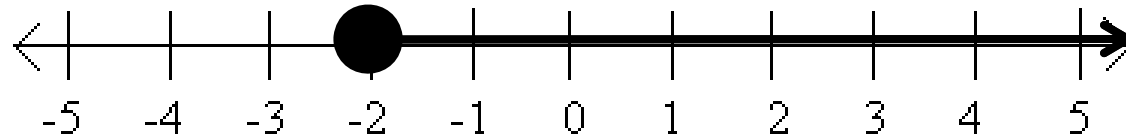
Homework Page 359

- 7) Write an inequality represented by the graph



Homework Page 359

- 9) Write an inequality represented by the graph



Homework Page 359

- 13) Solve the inequality. Graph your solution.

$$n+17 \leq 16\frac{4}{5}$$

Homework Page 359

- 15) Solve the inequality. Graph your solution.

$$w + 14.9 > -2.7$$

Homework Page 359

- 19) Solve the inequality. Graph your solution.

$$q - 1\frac{1}{3} > -2\frac{1}{2}$$

Homework Page 359

- 21) Solve the inequality. Graph your solution.

$$d - 1.92 > -8.76$$

Solve and graph the following

- $x+4\leq 9$

- $9\geq x+7$

Solve and graph the following

- $3 > x - 5$

- $-2 < x - 1$

Solve and graph the following

- $-7.5+x \leq -10$

- $5 > x - (-1)$

Solve and graph the following

- $4.25 \leq x - 4.25$

- $-18\frac{1}{2} + x > 1$

Word Problems

- The speed limit on Highland Street is 25 mph.
- Write and graph an equality showing this.



Word Problems

- You must be at least 48" tall to ride a roller coaster at Six Flags.
- Write and graph an equality showing this.



Word Problems

- You must be less than 12 years old to order off the children's menu.
- Write and graph an equality showing this.

Word Problems

- You must earn at least a 500 on the math SAT to get a scholarship.
- Write and graph an equality showing this.

Word Problems

- The sum of 10 and m is greater than or equal to -15.
- Write and graph an equality showing this.

Word Problems

- The sum of -8 and z is less than 33 .
- Write and graph an equality showing this.

Word Problems

- The difference of n and 9 is less than or equal to 13.
- Write and graph an equality showing this.

Word Problems

- You have to write at least a 10 page paper for history class. So far you have written 3 pages. How many more pages do you need to write?
- Write and graph an equality showing this.

Word Problems

- Your goal is to score at least 15 points in a basket ball game. You have already scored 6 points. How many more points do you need to score to reach your goal?
- Write and graph an equality showing this.

Word Problems

- You have read 3 books so far. Your friend has read 7 books. You want to read more books than your friend. How many more books do you need to read to beat your friend?
- Write and graph an equality showing this.

Word Problems

- You need to change your car's oil before you reach 10,000 miles. You have driven 7,000 miles so far. How much further can you drive before changing your oil?
- Write and graph an equality showing this.

Word Problems

- Your goal is to lose at least 25 lbs. So far you have lost 14 lbs. How much more weight do you need to lose to reach your goal?
- Write and graph an equality showing this.

Word Problems

- You need to earn at least \$40 to buy a new video game. You have \$18 so far. How much more money do you need to earn?
- Write and graph an equality showing this.

Word Problems

- You need at least 30 hours of community service to graduate. So far you have 15.5 hours. How many more hours do you need to graduate?
- Write and graph an equality showing this.

Word Problems

- You are checking your bag at the airport. Bags can weight no more than 50 lbs. Right now your bag weights 15 lbs. How much can you add to the bag?
- Write and graph an equality showing this.

6.2 Solving Inequalities Using Multiplication and Division

- Quiz Thursday on Addition, Subtraction, Multiplication and Division of Inequalities
- I will be here for extra help Wednesday until 2:15

- Do now

Find the slope of:

(2,3) and (4,6)

(-1,4) and (5,10)

(7, 8) and (11,8)

- Homework:

366 (3, 5, 7, 9, 11, 13, 15, 17)

Homework

- Solve the inequality and graph your solution:

1) $7.5 \leq m - 2$

-

2) $-5 > n + 3.3$

Write and graph an inequality that describes the situation:

3) The speed limit on a highway is 60 mph.

- 4) You must be at least 16 years old to go on a field trip.
- Write the verbal sentence as an inequality. Then solve and graph:
5) The difference of p and 10 is less than or equal to -30.
- 6) The sum of q and 5 is greater than 13.
- 7) Your friend scored 30 goals last season. So far you have scored 16 goals. How many more goals do you need to score to beat your friend?
- 8) You want to buy a new skateboard. You have a coupon for \$10 off. You have \$35 dollars in cash. What is the most expensive skateboard you can buy?

- $3 < 5$
- $-8 \geq -10$
- What happens when we multiply both sides by a positive number?

- $3 < 5$
- $-8 \geq -10$
- What happens when we multiply both sides by a negative number?

- What can we do to make sure the inequality stays true?

Multiplication Property of Inequality

- Multiplying each side of an inequality by a *positive* number produces an equivalent inequality
- Multiplying each side of an inequality by a *negative* number and *reversing the direction of the inequality* symbol produces an equivalent inequality

Multiplication Property of Inequality

- If $a < b$ and $c > 0$, then $ac < bc$
- If $a < b$ and $c < 0$, then $ac > bc$

- If $a > b$ and $c > 0$, then $ac > bc$
- If $a > b$ and $c < 0$, then $ac < bc$

- This property is also true for inequalities involving \leq and \geq .

Solve and graph the following

- $x/4 < 5$

- $x/-3 > 2$

Solve and graph the following

- $x/10 \geq 5$

- $x/-7 \leq -2$

Division Property of Inequality

- Dividing each side of an inequality by a *positive* number produces an equivalent inequality
- Dividing each side of an inequality by a *negative* number and *reversing the direction of the inequality* symbol produces an equivalent inequality

Division Property of Inequality

- If $a < b$ and $c > 0$, then $a/c < b/c$
- If $a < b$ and $c < 0$, then $a/c > b/c$

- If $a > b$ and $c > 0$, then $a/c > b/c$
- If $a > b$ and $c < 0$, then $a/c < b/c$

- This property is also true for inequalities involving \leq and \geq .

Solve and graph the following

- $-6x \geq -18$

- $5x < -10$

Solve and graph the following

- $2x \leq -50$

- $-7x > 49$

Solve and graph the following

- $-8 \geq x/3$

- $30 > -6x$

Solve and graph the following

- $75 \geq -25x$

- $x/4 > 4$

Solve and graph the following

- $4 < x / -2$

- $x / -4 > 4$

Solve and graph the following

- $1 > x / -4$

- $15x > 60$

Solve and graph the following

- $x/-6 \leq 3$

- $x/-1.5 \geq 2$

Solve and graph the following

- $x / -.25 < 8$

- $1.5x > 3$

Solve and graph the following

- $-3x \leq 10$

- $x/.5 > 7$

6.2 Solving Inequalities Using Multiplication and Division

- Thursday quiz on addition, subtraction, multiplication and division of inequalities
- I will be available after school on Wednesday for extra help

- Do now

Find the slope and y-intercept of:

a) $y=3x-5$

b) $y=2x+7$

c) $y=-6x-8$

d) $y=-.5x$

- Homework:

Page 366 (19, 21, 23, 25, 29, 31, 33, 37)

Review

Solve and graph the following

- $-3x \leq 12$

- $x/4 > 9$

Review

Solve and graph the following

- $-2x \geq 6$

- $x / -10 < 3$

Review

Solve and graph the following

- $n/-7 > 2$

- $10x < -100$

Review

Solve and graph the following

- $x/2.5 \geq 2$

- $-3x \leq -27$

Review

Solve and graph the following

- $-2x > 3$

- $\frac{1}{2}x \leq -5$

Word Problems

Solve and graph the following

- The product of x and 5 is greater than 50.

- The quotient of y and 3 less than or equal to 9.

Word Problems

Solve and graph the following

- The quotient of m and -3 is less than 5 .

- The product of n and -4 greater than or equal to 20 .

Word Problems

- A student has a \$40 gift certificate to the movies.
- If each movie costs \$8 what is the inequality that represents the number of movies the student can see?

Word Problems

- T-shirts are on sale at AC Moore for \$2.50. You have 15 dollars.
- What is the possible number of t-shirts that you can buy?

Word Problems

- There are 15 cookies and 5 children.
- How many cookies can each child have?

6.3 Solve Multi-Step Inequalities

- Do now

Simplify the following

a) $3(2^4 - 1)$

b) $\frac{1}{2}(30 - 24)$

c) $(8 - 4)^2$

- Homework:

372 (3, 7, 9, 17, 21, 23, 29, 31, 37)

Solve and graph the following

- $2x - 5 \leq 23$

- $-6y + 5 \leq -16$

Solve and graph the following

- $4x+8\leq 20$

- $-2x-7>21$

Solve and graph the following

- $3x-7<8$

- $-3(x-5) \leq 15$

Solve and graph the following

- $-3x+17<-1$

- $\frac{1}{2}(x+8)>20$

Solve and graph the following

- $-2(x+3) \leq -x+15$

- $\frac{1}{3}(x+2) \geq 7$

Solve and graph the following if
Possible

- $14x+5 < 7(2x-3)$

- $12x-1 > 6(2x-1)$

Solve and graph the following if
Possible

- $5(m+5) < 5m+17$

- $5x-12 \leq 3x-4$

Solve and graph the following if
Possible

- $2(3+x) > x+1$

- $1-8s \leq -4(2s-1)$

Solving Word Problems

- The sum of 5 and $10x$ is less than or equal to 55.
- Three times the sum of $2x$ and 6 is greater than or equal to 12.

Solving Word Problems

- Twice the sum of x and 8 is greater than or equal to -36 .
- The product of 6 and the difference of $6x$ and 3 is less than or equal to the product of -2 and the sum of 4 and $8x$.

Solving Word Problems

- Your backpack can have a maximum weight of 50 lbs. So far it weighs 20 lbs. How many more 6 lb books can you carry?

Solving Word Problems

- You are on a 2000 calorie diet. So far you have consumed 1500 calories. How many more 100 calorie cookies can you have?

6.4 Solve Compound Inequalities

- Test on Inequalities (Addition, Subtraction, Multiplication, Division, Multistep and Compound) Thursday
- I will be available after school on Wednesday

- Do now

Graph the following linear equations:

a) $y=3x+2$

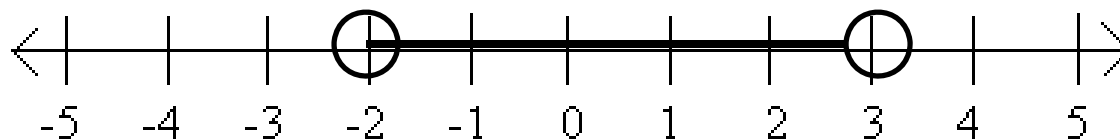
b) $y=\frac{1}{2}x-4$

- Homework:

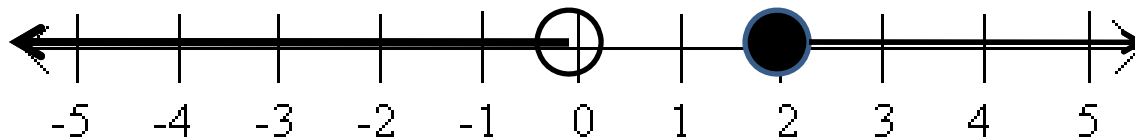
384 (3, 5, 7, 9, 11, 13, 15,)

- A **compound inequality** consists of two separate inequalities joined by **and** or **or**
- A compound inequality with **and** is the **intersection** of the inequalities
- A compound inequality with **or** is the **union** of the inequalities

- The graph of a compound inequality with **and** is the **intersection** of the graph of the inequalities
- All real numbers that are greater than 2 and less than 3
- $-2 < x < 3$



- The graph of a compound inequality with **or** is the **union** of the graph of the inequalities
- All real numbers that are less than 0 or greater than or equal to 2
- $x < 0$ or $x \geq 2$



Translate and Graph

- All real number that are less than 5 **and** greater than 3
- All real numbers that are less than or equal to -4 **or** greater than 6

Translate and Graph

- All real number that are greater than or equal to -2.5 **and** less than 10.5
- All real numbers that are greater than or equal to $-6\frac{1}{2}$ **or** less than or equal to -15

Solve and Graph

- $2 < x + 5 < 9$

- $x < 3$ or $x > 5$

Solve and Graph

- $3 < x - 2 < 7$

- $x + 2 < 5$ or $x - 1 > 10$

Solve and Graph

- $-5 \leq -x - 3 \leq 2$

- $2x + 3 < 9$ or $3x - 6 > 12$

Solve and Graph

- $-14 < x - 8 < -1$
- $3h + 1 < -5$ or $2h - 5 > 7$

Solve and Graph

- $-1 \leq -5t + 2 \leq 4$

- $4c + 1 \leq -3$ or $5c - 3 > 17$

Solve and Graph

- $9g-6 > 12g+1$ or $4 > \frac{2}{5}g+8$

- $-2h-7 > h+5$ or $\frac{1}{4}(h+8) \geq 9$

- The temperature on Mars varies from -100°C to 0°C
- Write a compound inequality that describes the temperature and graph

- The dollar value of one euro ranged from \$1.0361 to \$1.2597. Give an inequality that represents the dollar value of the euro

6.3 Solve Multi-Step Inequalities

- Do now

Solve for x

a) $2x+1=5$

b) $3x+2=17$

- Homework:

372 (3, 5, 7, 9, 17, 21, 23)

Solve and Graph

- $5x - 12 \geq 13$

- $2x + 7 \leq 27$

Solve and Graph

- $3x+9=27$

- $4x+-10\leq 22$

Solve and graph the following if
Possible

- $14x+5 < 7(2x-3)$

- $12x-1 > 6(2x-1)$

Solve and graph the following if
Possible

- $5(m+5) < 5m+17$

- $5x-12 \leq 3x-4$

Solve and graph the following if
Possible

- $2(3+x) > x+1$

- $1-8s \leq -4(2s-1)$

Word Problems

- Sum= addition
- Difference=subtraction
- Product=multiplication
- Quotient=division

Solving Word Problems

- The sum of 5 and $10x$ is less than or equal to 55.
- The sum of $2x$ and 6 is greater than or equal to 12.

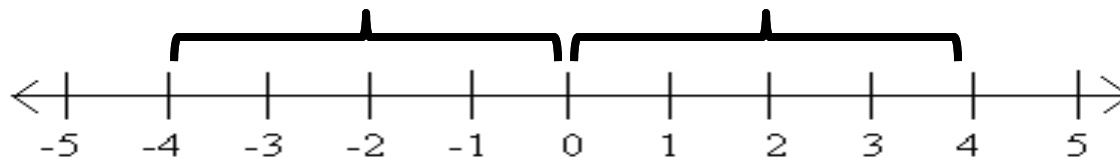
Solving Word Problems

- The sum of x and 8 is greater than or equal to -36.
- The product of $6x$ and 3 is less than or equal to 15.

6.5 Solve Absolute Value Equations

- Do now
 - a) Give the slope and y intercept for $y=3x+2$
 - b) Give the slope and y intercept for $y=2x+5$
- Homework:
393 (3, 9, 13, 15, 17, 19, 23, 43)

- An absolute value equation, such as $|x|=4$, is an equation that contains an absolute value expression
- $|x|=4$ means that the distance between x and 0 is 4 .
- The solutions of the equation are 4 and -4 because they are the only numbers whose distance from 0 is 4



Solving an Absolute Value Equation

- The equation $|ax+b|=c$ where $c \geq 0$ is the same as $ax+b=c$ and $ax+b=-c$

Solve

- $|x|=3$
- $x=3$ or $x=-3$

- $|x|=15$

Solve

- $|x-3|=8$

- $|x+7|=9$

Solve If Possible

- $|x| = -10$

- $|3x+5| + 6 = -2$

Solve If Possible

- $|x+1|=5$

- $|x+4|+6=2$

Solve

- $|r-7|=9$

- $|n+5|=14$

Solve

- $|x + 2.5| = 5$

- $|x - \frac{1}{3}| = 10$

Solve

- $|n - \frac{1}{2}| = 10$

- $|m + \frac{2}{5}| = 5$

Solve

- $2 | x+3 | = 8$

- $3 | x-2 | = 12$

Solve

- $4 | x-10 | = 100$

- $3 | x+7 | = 15$

Solve

- $3 | 2x - 7 | - 5 = 4$

- $5 | \frac{1}{2}x + 3 | - 10 = 35$

Solve

- $10|5x-15|-5=45$

- $\frac{1}{4}|x+2|+4=20$

- A safety regulation requires that the height of a guardrail be 42 inches with a standard deviation of 3 inches.
- Find the minimum and maximum heights of the guardrail.

- The diameter of a billiard ball must be 2.25 inches with an absolute error of .005 inches.
- Find the minimum and maximum diameter of the ball.

- A woman weighs 150lbs and is trying to keep her weight within 4lbs.
- What is the least and most she can weigh?

6.6 Solve Absolute Value Inequalities

- Do now

Solve and graph the following inequalities

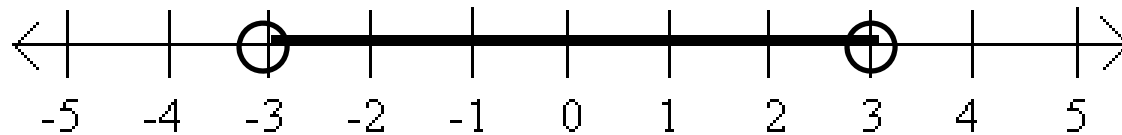
a) $3x > 15$

b) $-5x + 10 < 25$

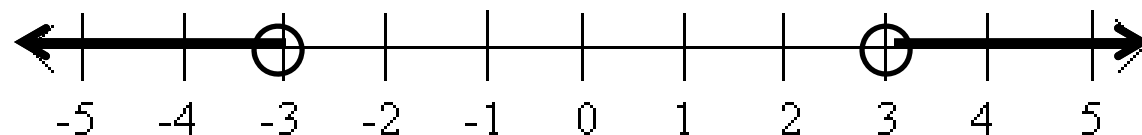
c) $-\frac{1}{2}x - 8 \geq 24$

- Homework:

- $|x|=3$ means that the distance between x and 0 is 3
- $|x|<3$ means that the distance between x and 0 is less than 3



- $|x|>3$ means that the distance between x and 0 is greater than



- The inequality $|ax+b| < c$ where $c > 0$ is equal to $-c < ax+b < c$ less than=and
- The inequality $|ax+b| > c$ where $c > 0$ is equal to $ax+b < -c$ or $ax+b > c$ greater=or

Solve and Graph

- $|x| \geq 6$

- $|x| \leq 0.5$

Solve and Graph

- $|x| \leq 8$

- $|x| > \frac{2}{3}$

Solve and Graph

- $|x-5| \geq 7$

- $|x+3| < 8$

Solve and Graph

- $|2w-1| < 11$

- $|2x+3| - 4 \leq 5$

Solve and Graph

- $|-4x-5|+3<9$
- $3|5m-6|-8\leq 13$

Solve and Graph

CHANGE

- The absolute deviation of x from 6 is less than or equal to 4.

NUMBERS

- The absolute deviation of $2x$ from -7 is greater than or equal to 15

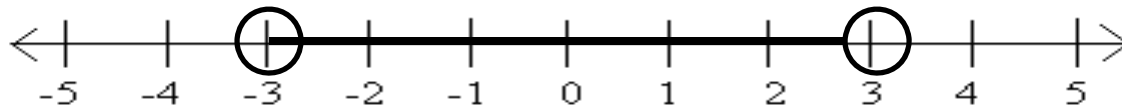
Solve and Graph

- Three more than the absolute deviation of $-4x$ from 7 is greater than 10

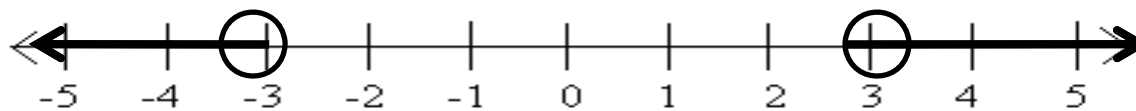
6.6 Solve Absolute Value Inequalities

- Do now
 - a) Graph $y=x+3$
 - b) Graph $y=\frac{2}{3}x-2$
- Homework:
Finish Worksheet

- Graph of $|x| < 3$



- Graph of $|x| > 3$



- The inequality $|ax+b| < c$ where $c > 0$ is equivalent to the compound inequality $-c < ax+b < c$
- The inequality $|ax+b| > c$ where $c > 0$ is equivalent to the compound inequality $ax+b < -c$ or $ax+b > c$

6.7 Linear Inequalities in Two Variables

- Do now

a) Graph $y=x+3$

b) Graph $y=2x-4$

- Homework:

409 (3, 5, 7, 9, 17, 19, 21, 23)

- Quiz on 6.7 Wednesday
- I will be staying after Tuesday, not Wednesday

Step 1

- Graph the boundary line
- Use a dashed line for $<$ or $>$
- Use a solid line for \leq or \geq

Step 2

- Graph Test a point not on the boundary line by checking whether the ordered pair is a solution of the inequality

Step 3

- Shade the half plane containing the point if the ordered pair is a solution of the inequality
- Shade the other half plane if the ordered pair is not a solution

7.1 Solve Linear Systems by Graphing

- Homework:
430 (13, 15, 17, 19, 21)

- A system of linear equations consists of two or more linear equations in the same variable
- Example
 $x+2y=7$ Equation 1
 $3x-2y=5$ Equation 2

- A solution of a system of linear equations in two variables is an ordered pair that satisfies each equation in the system

Step 1

- Graph both equations in the same coordinate plane.

Step 2

- Estimate the coordinates of the point of intersection.

Step 3

- Check the coordinates algebraically by substituting into each equation of the original linear system.

7.2 Solve Linear Systems by Substituting

- Do now:

Graph

$$y=3x-2$$

$$y=-\frac{1}{3}x+1$$

- Homework:

Finish worksheet

Step 3

- Substitute the value from Step 2 into the revised equation from Step 1 and solve

Step 1

- Solve one of the equations for one of its variables
- When possible solve for a variable that has a coefficient of 1 or -1

Step 2

- Substitute the expression from Step 1 into the other equation and solve for the other variable

7.3 Solving Linear Systems by Adding or Subtracting

- Do now:
Graph
 $y=2x-1$
and a line parallel to it
- Homework:
447 (3-13 odd)

Step 1

- Add or subtract the equations to eliminate one variable

Step 2

- Solve the resulting equation for the other variable

Step 3

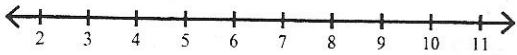
- Substitute in either original equation to find the value of the eliminated variable

Assignment

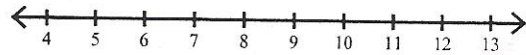
Date _____ Period _____

Solve each inequality and graph its solution.

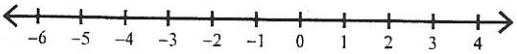
1) $|b - 7| \leq 3$



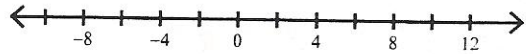
2) $|x - 9| < 3$



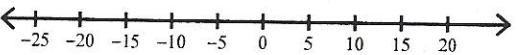
3) $|n + 1| < 2$



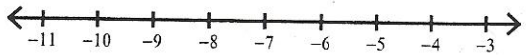
4) $|m - 2| > 8$



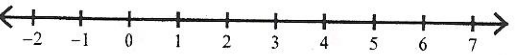
5) $\left|\frac{b}{4}\right| > 5$



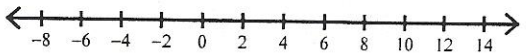
6) $|m + 7| > 1$



7) $|n - 2| < 2$



8) $|r - 3| > 6$



Assignment

Date _____ Period _____

Solve each equation.

1) $|b - 3| = 2$

2) $|b - 6| = 1$

3) $|x + 1| = 4$

4) $|b + 6| = 12$

5) $|v + 6| = 4$

6) $|b + 5| = 9$

7) $\left|\frac{n}{5}\right| = 3$

8) $|v + 4| = 4$

Name _____

Algebra 1

6.1- Solving Inequalities Using Addition and Subtraction

March 3 2011

Solve the inequality and graph your solution:

1) $7.5 \leq m - 2$

2) $-5 > n + 3.3$

Write and graph an inequality that describes the situation:

3) The speed limit on a highway is 60 mph.

4) You must be at least 16 years old to go on a field trip.

Write the verbal sentence as an inequality. Then solve and graph:

5) The difference of p and 10 is less than or equal to -30 .

6) The sum of q and 5 is greater than 13.

7) Your friend scored 30 goals last season. So far you have scored 16 goals. How many more goals do you need to score to beat your friend?

8) You want to buy a new skateboard. You have a coupon for \$10 off. You have \$35 dollars in cash. What is the most expensive skateboard you can buy?

Chapter 6- Inequalities Review

March 16, 2011

Name _____

Solve and Graph

1) $x+4>10$

2) $x-7<-2$

3) $x+1\geq 9$

4) $x-5\leq 10$

5) $3x\geq 12$

6) $-4x<24$

7) $x/-2>16$

8) $x/5\leq 10$

9) $3x+2<14$

10) $-4x-3\leq 13$

11) $-x/2 +5\geq 4$

12) $x/3 +7>1$

13) $2<x+5<9$

14) $16<-s-6$ or $2s+5\geq 11$

15) $-6<3n+9<12$

16) $2x+3<9$ or $3x-6>12$

17) The sum of 10 and x is greater than 15

18) The difference of x and 7 is less than or equal to 10

19) The product of 5 and x is less than or equal to 30

20) The quotient of v and -9 is less than -18

Assignment

Date _____ Period _____

Solve each system by elimination.

1) $x + 9y = -6$
 $6x - 9y = 27$

2) $-5x + 7y = -2$
 $9x - 7y = -30$

3) $x + 4y = 5$
 $-7x - 4y = -11$

4) $-8x + 4y = 20$
 $8x - 6y = -18$

5) $-x - 2y = 3$
 $6x + 2y = -8$

6) $-x - 10y = -15$
 $-4x - 10y = -30$

7) $2x - 2y = 18$
 $2x - 8y = 18$

8) $2x + 10y = 4$
 $2x + 9y = 4$

9) $-10x - 5y = 0$
 $-10x - 9y = -24$

10) $-8x - 5y = -8$
 $-9x - 5y = -14$

This worksheet was taken from Textbook (McDougal Alg 1)

Name _____

Date _____

LESSON
7.2

Practice B

For use with pages 435–441

Solve for the indicated variable.

1. $8x + 4y = 12; y$

2. $3x - 4y = 12; y$

3. $6x - 4y = 8; x$

Tell which equation you would use to isolate a variable. *Explain your reasoning.*

4. $x = 8y - 3$

$3x - 4y = 1$

5. $-4x + 5y = 11$

$y = 4x - 1$

6. $9 - 3x = y$

$3x - y = -2$

Solve the linear system by using substitution.

7. $x = 6 - 4y$

$2x - 3y = 1$

8. $4x + 3y = 0$

$2x + y = -2$

9. $-x + 2y = -6$

$8x + y = 31$

10. $6x - y = -35$

$5x - 2y = -35$

11. $-x + 3y = -9$

$8x - 4y = 32$

12. $3x + 3y = -18$

$4x - y = -14$

13. $2x + 2y = 6$

$-3x + 5y = -33$

14. $5x + 2y = 43$

$-6x + 3y = -30$

15. $4x - 2y = -4$

$7x - 5y = -19$

		3-1	3-7	3-8	3-9	3-11	3-15	3-16
Qwandre Bath	110499	HW 7 M	HW 8 ✓	HW 9 M	HW 10 M	HW 11 M	M HW 12 M	HW 13 ✓
Jackson Benoit	112213	✓	✓	✓	✓	50	✓	M
Olivia Cosenza	107586	✓	✓	✓	M	M	✓	M
Soloie Dennie	133029	M	M			M	Abs	
Nancy Diaz	648684						Abs	
Tiana Hernandez	125286	50	✓	✓	✓	M	M	M
Thomas Ivory	823947							
Alexis Kostas	102112	✓	✓	✓	M	✓	✓	✓
Karolyina Lisboa	111147	50	M	✓		✓	✓	✓
Megan Lockwood	143133	✓	✓	✓	✓	✓	✓	✓
William Lopez	125966	✓	✓	✓	✓	✓	M	✓
Johnathan Martinez	107490	Abs ✓	✓	M	✓	✓	✓	✓
Johana Matos	102028		M	Abs ✓	M	M	Abs ✓	✓
Katelyn Nicolas	250587	✓	✓	✓	Abs		M	M
Jobby Nogueiras	131873		M				✓	✓
Egon Rapi	125264		✓	M	✓		✓	✓
Denayla Russell	112168	✓	✓	✓	✓	✓	Abs ✓	Abs ✓
Kelsey Walker	116278	M	M	✓				
Andrew Wrenn	107607	M		Abs	M	M	Abs	
Alexander Zepeda	108239	M			✓	M	M	

Algebra 1-Period 1		3-17	3-22	3-29	3-30	3-5	4-6	4-7	4-8
Qwandre Bath	110499	M	M ✓	✓	M ✓	M ✓	M	M	M
Jackson Benoit	112213	SO	SO	M	✓	M	M	M	M
Olivia Cosenza	107586	✓	SO			M	M	M	M
Soloe Dennie	133029	M	M		M	M	M	M	
Nancy Diaz	648684				M				
Tiana Hernandez	125286	✓	SO	SO	M	M	M	M	SO
Tomas Ivory	823947								
Alexis Kostas	102112	✓			✓	M	M ✓	M	M
Karolyna Lisboa	111147	Abs ✓	M	M	✓	M	M	M	
Megan Lockwood	143133	✓	✓	✓	✓	✓	M ✓	✓	✓
William Lopez	125966	✓		✓	✓	M	M	M	M
Johnathan Martinez	107490	Abs ✓	SO	M	✓	✓	M	M	M
Johana Matos	102028	M			M	M	M	M	M
Katelyn Nicolas	250587	✓	SO	M	✓	M	M	M	M ✓
Jobby Noguera	131873					M	M	M	
Etion Rapi	125264	SO	SO	M	✓	✓	M	M	
Denayia Russell	112168	✓	✓	✓	M	M	M	M	M ✓
Kelsey Walker	116278	M				M	M	M	
Andrew Wrenn	107607	✓				M	M	M	
Alexander Zepeda	108239	Abs ✓	M	M	M	✓	M	M	M

Name _____

Algebra 1 Quiz

6.1 and 6.2- Solving Inequalities Using Addition, Subtraction, Multiplication and Division
March 10, 2011

Solve the inequality and graph your solution:

1) $x+4<5$

2) $-1\leq x+3$

3) $x-4<-5$

4) $x-8\leq 1$

5) $x/-3<-10$

6) $72\leq 9x$

7) $x/3>-9$

8) $-5x\geq 30$

9a) The difference of x and 3 is greater than or equal to 10.

9b) The product of x and 10 is less than 50.

10a) Your friend's record is scoring 20 points in a basketball game. So far you have scored 4 points. How many points do you need to match or break your friend's record?

10b) You have \$90 to buy CDs. The CDs cost \$18 each. What are the possible numbers of CDs that you can buy?

Chapter 6- Inequalities Test

March 17, 2011

Name _____

Solve and Graph

1) $x - 2 > 5$

6) $3x + 13 < 22$

2) $x + 7 \leq -3$

7) $-5 < x + 2 < 3$

3) $3x \geq -9$

8) $x \leq -10$ or $x \geq 3$

4) $x / -2 \leq 7$

9) The sum of p and 14 is less than 20.

5) $4x - 10 > 34$

10) The product of q and -3 is greater than or equal to 15.

Chapter 6.5 and 6.6 – Absolute Value Quiz
March 25, 2011

Name _____

Solve

1) $|y|=36$

2) $|w|=9$

3) $|x+1|=8$

4) $|q-5|=11$

5) $|x/2|=6$

Solve and Graph

6) $|x|<2$

7) $|y|\geq 3$

8) $|b-5|<10$

9) $|2s-7|>1$

10) $|q/3|\leq 6$

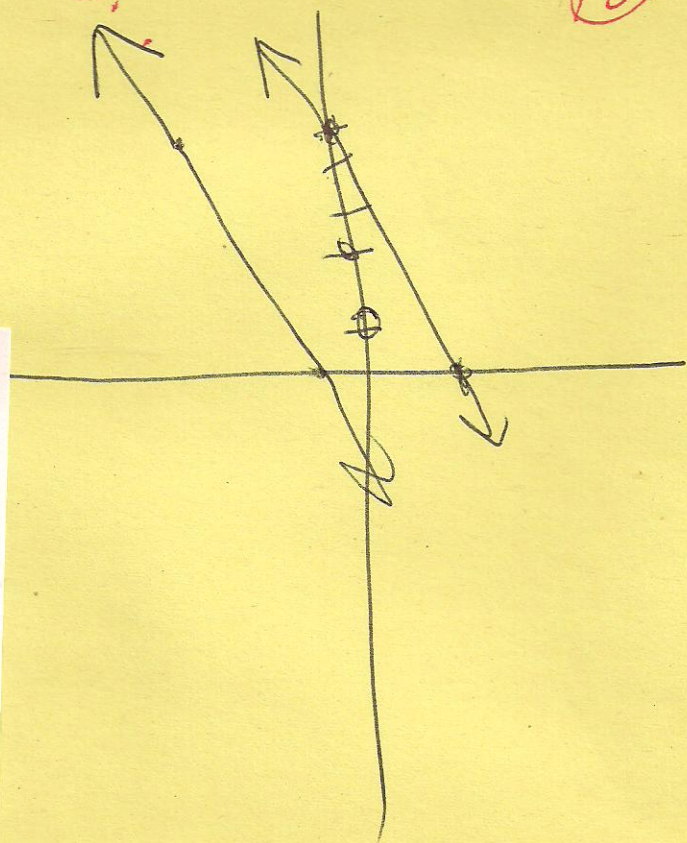
ALEXIS KOSTAS

DUNNOW

APR 7th 2011

$$y = \frac{1}{3}x + 1$$

(50)



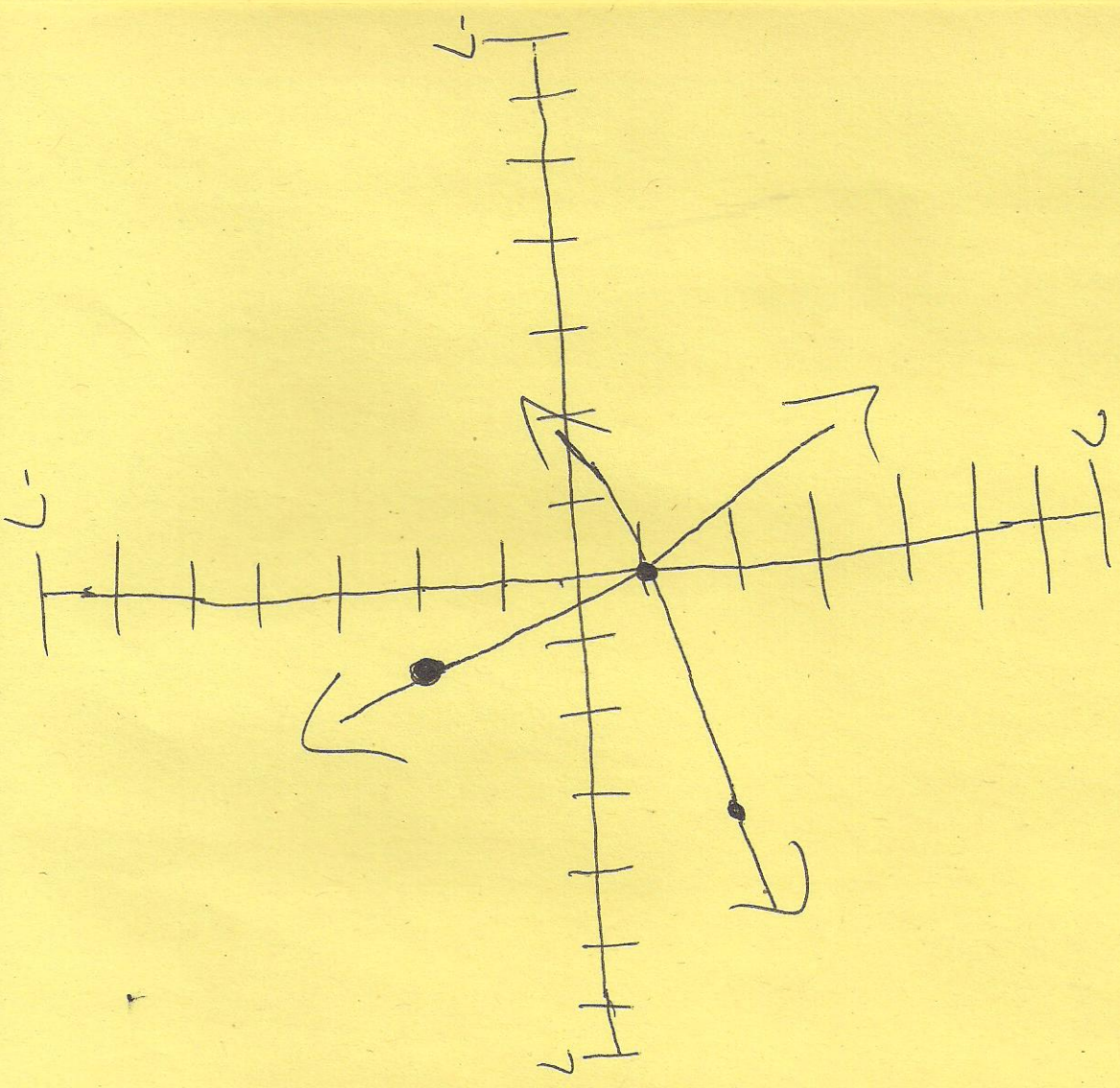
Graph
 $y = \frac{1}{3}x + 1$
 and graph
 a line
 perpendicular to
 $y = \frac{1}{3}x + 1$
www.sciencedirect.com

DUNNOW
 APR 7th 2011

$$y = \frac{1}{3}x + 1$$

$$y = -\frac{3}{1}x + 1$$

(100)



WORCESTER PUBLIC SCHOOLS

TEACHER REFERRAL FORM

Student: <u>Kelsey Walker</u>		Referring Staff: <u>Miss Payne Student teacher</u>	
Student ID: <u>116273</u>	Homeroom: <u>334</u>	Date: <u>3-10-11</u>	Time of Incident: <u>Mrs. Razzag 8:00 am</u>
Grade Level: <u>9</u>			

Location: (select one)

- | | | | |
|---|--|--|--------------------------------------|
| <input checked="" type="checkbox"/> Classroom | <input type="checkbox"/> Cafeteria | <input type="checkbox"/> Bus loading zone | <input type="checkbox"/> Other _____ |
| <input type="checkbox"/> Playground | <input type="checkbox"/> Bathroom/Restroom | <input type="checkbox"/> Parking lot | |
| <input type="checkbox"/> Commons/common area | <input type="checkbox"/> Gym | <input type="checkbox"/> On bus | |
| <input type="checkbox"/> Hallway/Breezeway | <input type="checkbox"/> Library | <input type="checkbox"/> Special assembly/field trip | |

Nature of problem: She was using a cell phone when she was asked to give it to me she refused she failed to follow directions and was interrupting class during testing

Possible Motivation: (select one)

- | | | |
|---|--|--------------------------------------|
| <input checked="" type="checkbox"/> Obtain peer attention | <input checked="" type="checkbox"/> Avoid tasks/activities | <input type="checkbox"/> Don't Know |
| <input type="checkbox"/> Obtain adult attention | <input type="checkbox"/> Avoid peer(s) | <input type="checkbox"/> Other _____ |
| <input type="checkbox"/> Obtain items/activities | <input type="checkbox"/> Avoid adults | |

Others Involved: (select all that apply)

- None Peers Staff Teacher Substitute Unknown Other _____

Actions of Teacher Before Referral

- | | |
|---|--|
| <input checked="" type="checkbox"/> Conference with pupil | <input type="checkbox"/> SST Referral |
| <input type="checkbox"/> Phone call home | <input type="checkbox"/> Detention |
| <input type="checkbox"/> Letter to parents | <input type="checkbox"/> Parent Conference |
| <input type="checkbox"/> Loss of privilege | <input type="checkbox"/> Guidance Conference |
| | <input type="checkbox"/> Other _____ |

Classroom Accommodations

- | |
|--|
| <input type="checkbox"/> Time out |
| <input type="checkbox"/> Mediation |
| <input type="checkbox"/> Change seat |
| <input type="checkbox"/> Teacher proximity |
| <input type="checkbox"/> Behavior chart/Incentive plan |

Administrative Decision (circle)

- | | | |
|------------------------------------|------------------------------|-----------------------------------|
| 001 Phone Conference | 007 Overnight PPC | 014 Conference w/student |
| 002 Notice to Parent | 008 In-School Suspension | 016 Safety Center |
| 003 Warning/Time in Office | 009 Out-of-School Suspension | 017 Mediation/Conflict Management |
| 004 Demerit/Loss of Privilege | 010 Bus Suspension | 020 Smoking Cessation Program |
| 005 Detention | 011 Probation | Action Code _____ |
| 05S Non-Pupil Session Detention | 012 Referred to Guidance/SS | Infraction Code _____ |
| 006 Project 2 nd Chance | 013 Removal of Demerit | (See Back) |

**DOHERTY HIGH SCHOOL
OUT-OF-SCHOOL-SUSPENSION**

Follow-up comments: NUMBER OF DAYS # 3

**DR. BERNARD REESE
ASSISTANT PRINCIPAL**

Administrator's Initials _____

Your Name
Your email address

Worcester Public Schools

Course Title: Algebra 2

Course Description:

The course will focus on the Algebra II Massachusetts Mathematics Curriculum Framework and the Worcester Public Schools 11th Grade Mathematics Curriculum. This course is a bridge from Algebra I into advanced topics in mathematics and successful completion in Algebra 1 and Geometry are necessary to take this course. Please note that Advanced Algebra is the prerequisite to Pre-calculus and Probability and Statistics.

Course Objectives:

Students will:

- Explore the relationship between tables, graphs, and equations for linear, quadratic, and exponential functions.
- Study the concept of relations/functions and their inverses using function notation, tables, graphs, equations, and composition.
- Continue to practice algebraic skills including addition/subtraction/multiplication/division of polynomials, factoring quadratics, simplifying rational expressions, mathematical conversions
- Explore and solve problems using trigonometry and the unit circle.
- Utilize the TI-83 graphing calculator and scientific calculator for exploration/analysis of mathematical concepts.
- Review test taking strategies & problem solving for SAT/ACT exams.

Essential Questions

1. How can linear and non-linear functions be used to model real-life situations?
2. What is the difference between a relation and a function?
3. How can we derive the inverse to a relation or function?
4. What are the characteristics of a linear function? Quadratic function? Exponential function? Use tables, graphs and equations in your description.
5. What is the trigonometry of a right triangle?
6. Where do trigonometric functions and solutions occur in our world?

Texts: McDougal Littell, Algebra 2 Concepts and Skills, 2004

Your Name
Your email address

District-Wide Reading Skills Across the Curriculum

- **Preview (survey)** – note major elements such as organization, vocabulary, summary, and graphics
- **Ask Questions**-question the text, author and self
- **Activate Prior Knowledge**- use what is already known to enhance understanding of what is new in the text
- **Make Connections**-link text to self, text to world and text to text
- **Visualize**-use sensory images to create a mental picture of the scene, story, situation, or process and involve oneself in it.
- **Draw Inferences**- go beyond the given information to determine patterns and relations among and between data values
- **Distinguish Key Ideas**- recognize main idea and key concepts
- **Use Fix –Up Strategies**- monitor own understanding by pausing to think, re-read, consider what makes sense, restate in own words

Insert Grading Policy and other rules unique to your classroom here (such as Make-Up or Extra Help)



Algebra 2

Student Name _____

Parent/Legal Guardian _____

WEEKLY LESSON PLAN
Doherty Memorial High School
Worcester Public Schools

Teacher: *Razzaq*

Department: *Mathematics*

COURSE: Algebra 2

Week of: March 21, 2011

Weekly Objectives : Students will review trigonometry with right triangles and radian measure. Students will also begin evaluating trigonometric functions of any angle.

Monday	Tuesday	Wednesday	Thursday	Friday	Notes/Comments								
Framework Standard #(s) 12.G.1 SIP MCAS/Accuplacer: Do Now	Framework Standard #(s) 12.G.1 SIP SIP MCAS/Accuplacer: Do Now	Framework Standard #(s) 12.G.1 SIP SIP MCAS/Accuplacer: Do Now	Framework Standard #(s) 12.G.1 SIP SIP MCAS/Accuplacer: Do Now	Framework Standard #(s) 12.G.1 SIP SIP MCAS/Accuplacer: Do Now	Sophomores will be taking MCAS Tuesday, Wednesday, and Thursday. A study hall period will be given to juniors Wednesday and Thursday.								
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: center;">Methodologies</th> </tr> </thead> <tbody> <tr> <td style="width: 50%; vertical-align: top;"> <input type="checkbox"/> Lecture <input type="checkbox"/> Teacher Modeling <input type="checkbox"/> Media Presentation <input checked="" type="checkbox"/> Small Group <input checked="" type="checkbox"/> Class/Group Discussion <input checked="" type="checkbox"/> Question/answer <input type="checkbox"/> Guided Practice <input type="checkbox"/> Independent practice <input type="checkbox"/> Computer Lab <input type="checkbox"/> Science Lab <input type="checkbox"/> Calculator </td> <td style="width: 50%; vertical-align: top;"> <input type="checkbox"/> Lecture <input type="checkbox"/> Teacher Modeling <input type="checkbox"/> Media Presentation <input type="checkbox"/> Small Group <input type="checkbox"/> Class/Group Discussion <input type="checkbox"/> Question/answer <input type="checkbox"/> Guided Practice <input type="checkbox"/> Independent practice <input type="checkbox"/> Computer Lab <input type="checkbox"/> Science Lab <input type="checkbox"/> Calculator </td> </tr> </tbody> </table>					Methodologies		<input type="checkbox"/> Lecture <input type="checkbox"/> Teacher Modeling <input type="checkbox"/> Media Presentation <input checked="" type="checkbox"/> Small Group <input checked="" type="checkbox"/> Class/Group Discussion <input checked="" type="checkbox"/> Question/answer <input type="checkbox"/> Guided Practice <input type="checkbox"/> Independent practice <input type="checkbox"/> Computer Lab <input type="checkbox"/> Science Lab <input type="checkbox"/> Calculator	<input type="checkbox"/> Lecture <input type="checkbox"/> Teacher Modeling <input type="checkbox"/> Media Presentation <input type="checkbox"/> Small Group <input type="checkbox"/> Class/Group Discussion <input type="checkbox"/> Question/answer <input type="checkbox"/> Guided Practice <input type="checkbox"/> Independent practice <input type="checkbox"/> Computer Lab <input type="checkbox"/> Science Lab <input type="checkbox"/> Calculator	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: center;">Methodologies</th> </tr> </thead> <tbody> <tr> <td style="width: 50%; vertical-align: top;"> <input type="checkbox"/> Lecture <input type="checkbox"/> Teacher Modeling <input type="checkbox"/> Media Presentation <input type="checkbox"/> Small Group <input type="checkbox"/> Class/Group Discussion <input type="checkbox"/> Question/answer <input type="checkbox"/> Guided Practice <input type="checkbox"/> Independent practice <input type="checkbox"/> Computer Lab <input type="checkbox"/> Science Lab <input type="checkbox"/> Calculator </td> <td style="width: 50%; vertical-align: top;"> <input checked="" type="checkbox"/> Lecture <input checked="" type="checkbox"/> Teacher Modeling <input checked="" type="checkbox"/> Media Presentation <input type="checkbox"/> Small Group <input type="checkbox"/> Class/Group Discussion <input type="checkbox"/> Question/answer <input checked="" type="checkbox"/> Guided Practice <input type="checkbox"/> Independent practice <input type="checkbox"/> Computer Lab <input type="checkbox"/> Science Lab <input type="checkbox"/> Calculator </td> </tr> </tbody> </table>	Methodologies		<input type="checkbox"/> Lecture <input type="checkbox"/> Teacher Modeling <input type="checkbox"/> Media Presentation <input type="checkbox"/> Small Group <input type="checkbox"/> Class/Group Discussion <input type="checkbox"/> Question/answer <input type="checkbox"/> Guided Practice <input type="checkbox"/> Independent practice <input type="checkbox"/> Computer Lab <input type="checkbox"/> Science Lab <input type="checkbox"/> Calculator	<input checked="" type="checkbox"/> Lecture <input checked="" type="checkbox"/> Teacher Modeling <input checked="" type="checkbox"/> Media Presentation <input type="checkbox"/> Small Group <input type="checkbox"/> Class/Group Discussion <input type="checkbox"/> Question/answer <input checked="" type="checkbox"/> Guided Practice <input type="checkbox"/> Independent practice <input type="checkbox"/> Computer Lab <input type="checkbox"/> Science Lab <input type="checkbox"/> Calculator
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Assessments of learning: <input type="checkbox"/> Individual <input checked="" type="checkbox"/> Group <input checked="" type="checkbox"/> Written <input type="checkbox"/> Oral Homework :	Assessments of learning: <input type="checkbox"/> Individual <input checked="" type="checkbox"/> Group <input checked="" type="checkbox"/> Written <input type="checkbox"/> Oral Homework :	Assessments of learning: <input type="checkbox"/> Individual <input type="checkbox"/> Group <input type="checkbox"/> Written <input type="checkbox"/> Oral Homework :	Assessments of learning: <input type="checkbox"/> Individual <input type="checkbox"/> Group <input type="checkbox"/> Written <input type="checkbox"/> Oral Homework :	Assessments of learning: <input checked="" type="checkbox"/> Individual <input type="checkbox"/> Group <input type="checkbox"/> Written <input checked="" type="checkbox"/> Oral Homework : Worksheet									

WEEKLY LESSON PLAN
Doherty Memorial High School
Worcester Public Schools

Teacher: Razaq

Department: Mathematics

COURSE: Algebra 2 Week of: April 4, 2011

Weekly Objectives: Students will continue trigonometry and will learn inverse trig functions, the law of sines and the law of cosines.

Monday	Tuesday	Wednesday	Thursday	Friday	Notes/Comments:
Framework Standard #(s) 12.P.2 SIP MCAS/Accuplacer: Do Now	Framework Standard #(s) 12.P.2 SIP SIP MCAS/Accuplacer: Do Now	Framework Standard #(s) 12.P.2 SIP SIP MCAS/Accuplacer: Do Now	Framework Standard #(s) 12.P.2 SIP SIP MCAS/Accuplacer: Do Now	Framework Standard #(s) 12.P.2 SIP SIP MCAS/Accuplacer: Do Now	
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Homework: 878 (3, 5, 7, 13, 17, 19, 21, 23)	Homework: Worksheet	Homework: Worksheet	Homework: Worksheet	Homework: Worksheet	

Special Right Triangles

- Do-now

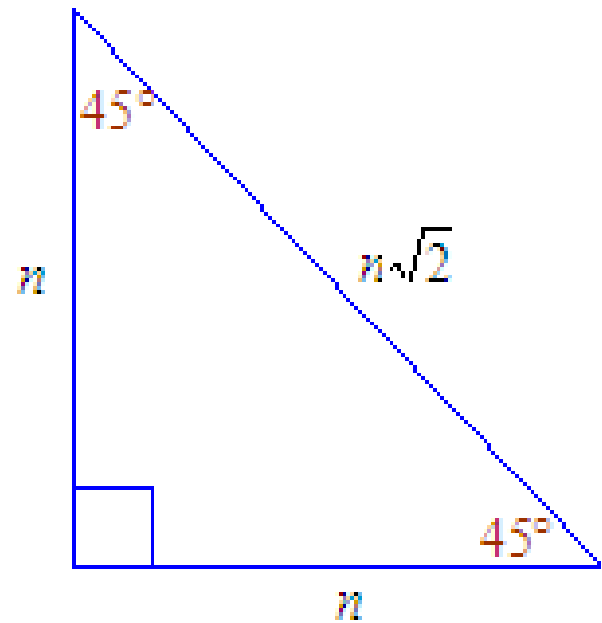
Solve for x

a) $25x^2 - 36 = 0$

b) $x^2 + 14x + 49$

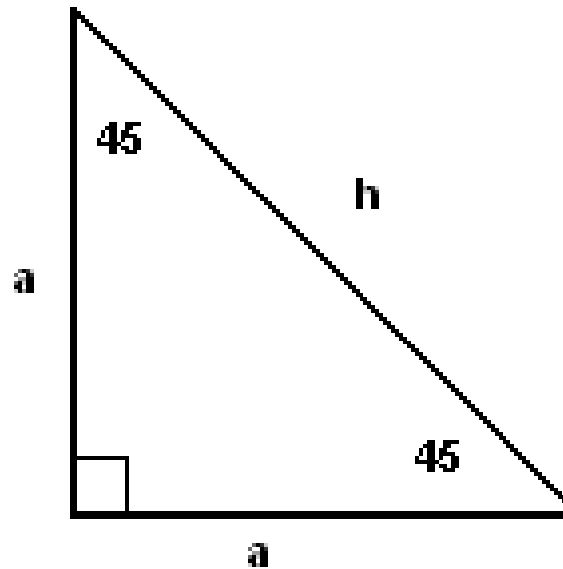
45°-45°-90°

- A right triangle with two sides of equal lengths is a 45°- 45°- 90° triangle
- Each of the sides are length n
- The hypotenuse is length $n\sqrt{2}$



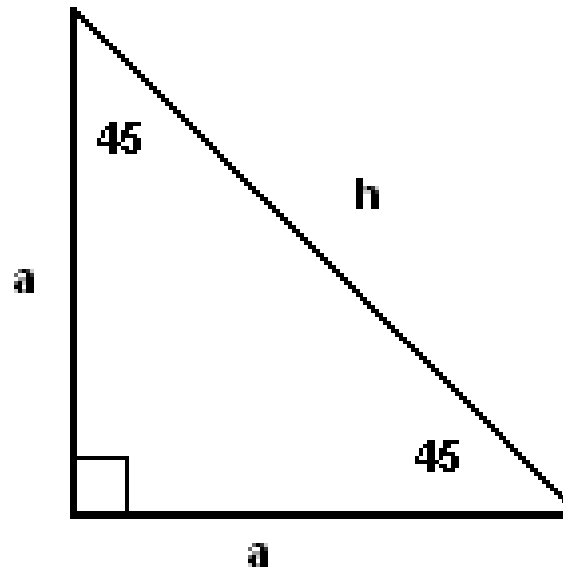
- If $a=2$ find h

- If $a=3.5$ find h



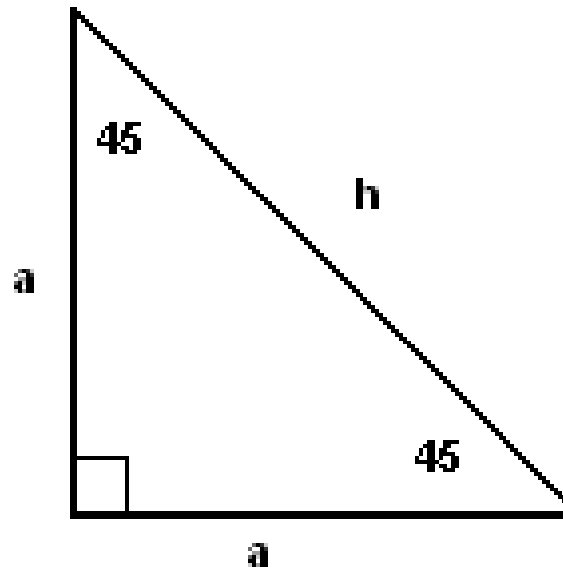
- If $a=2\sqrt{2}$ find h

- If $a=5.25\sqrt{2}$ find h



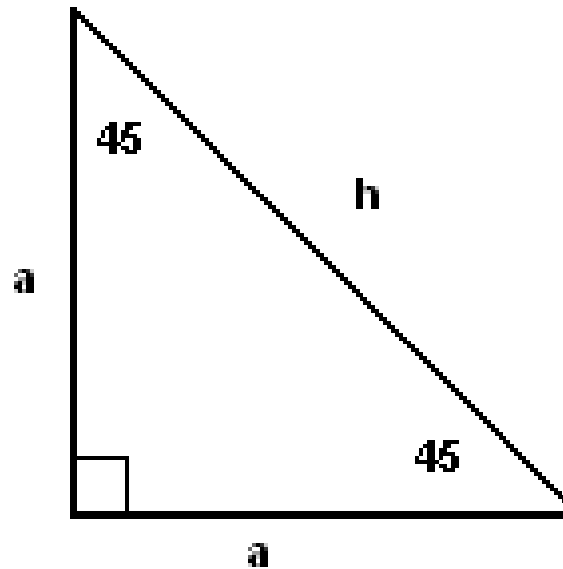
- If $a=3/\sqrt{2}$ find h

- If $a=7/\sqrt{2}$ find h



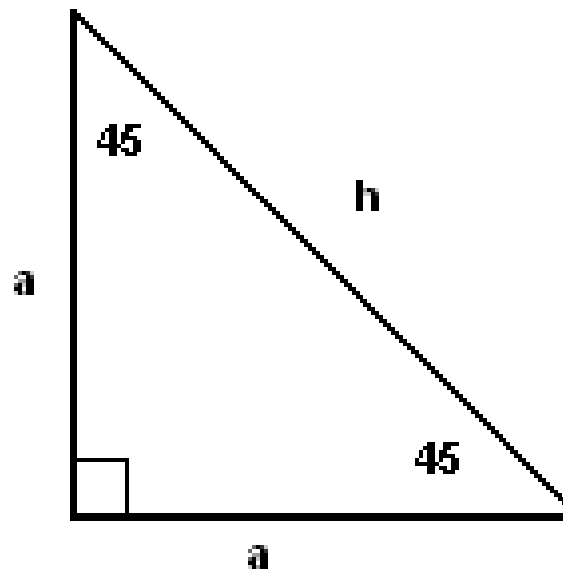
- If $h = \sqrt{2}$ find a

- If $h = 6\sqrt{2}$ find a



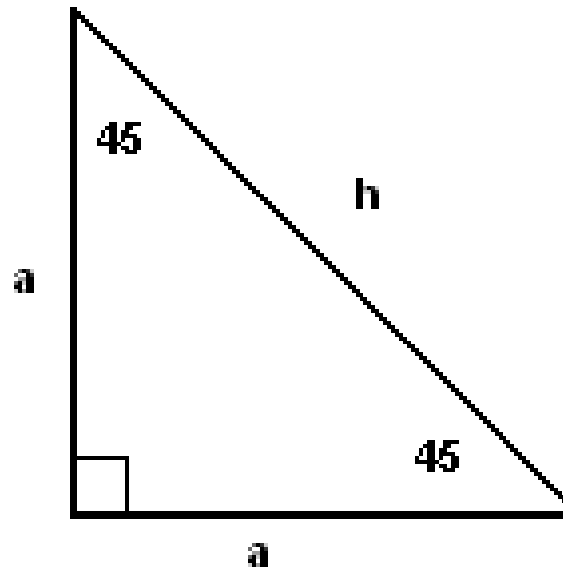
- If $h=17$ find a

- If $h=4.5$ find a



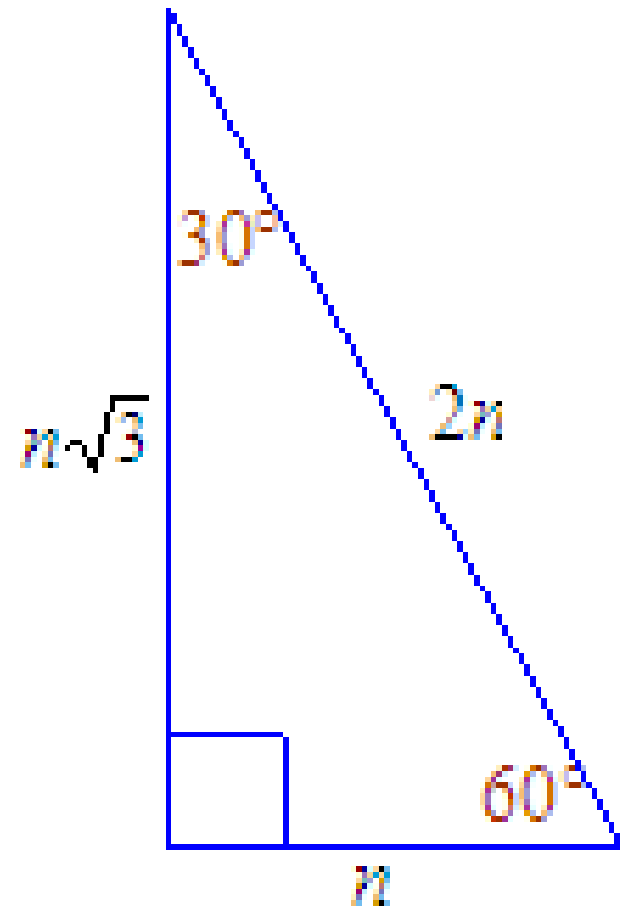
- If $h=5/\sqrt{2}$ find a

- If $h=3.6/\sqrt{2}$ find a



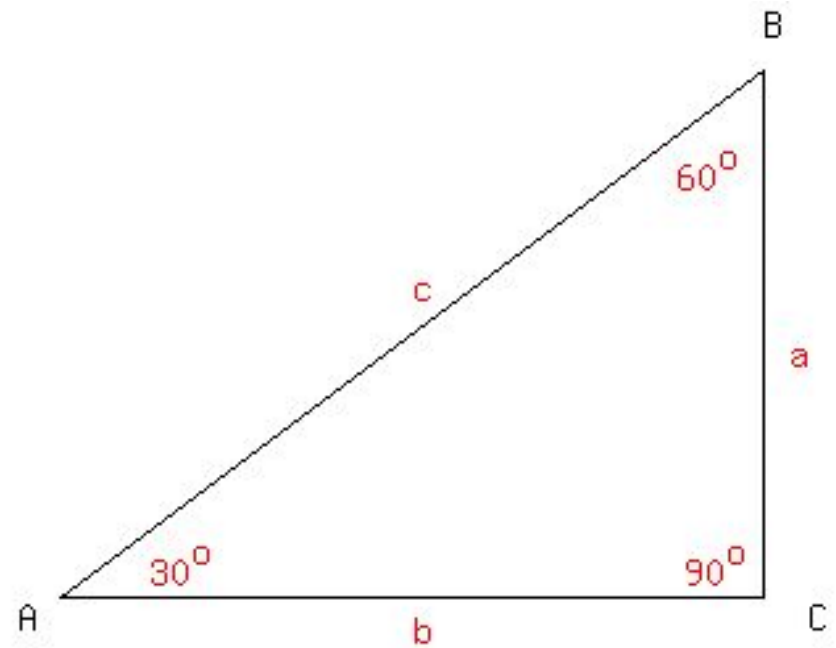
30°-60°-90°

- A triangle with lengths n , $n\sqrt{3}$, and $2n$ is called a 30°-60°-90° triangle

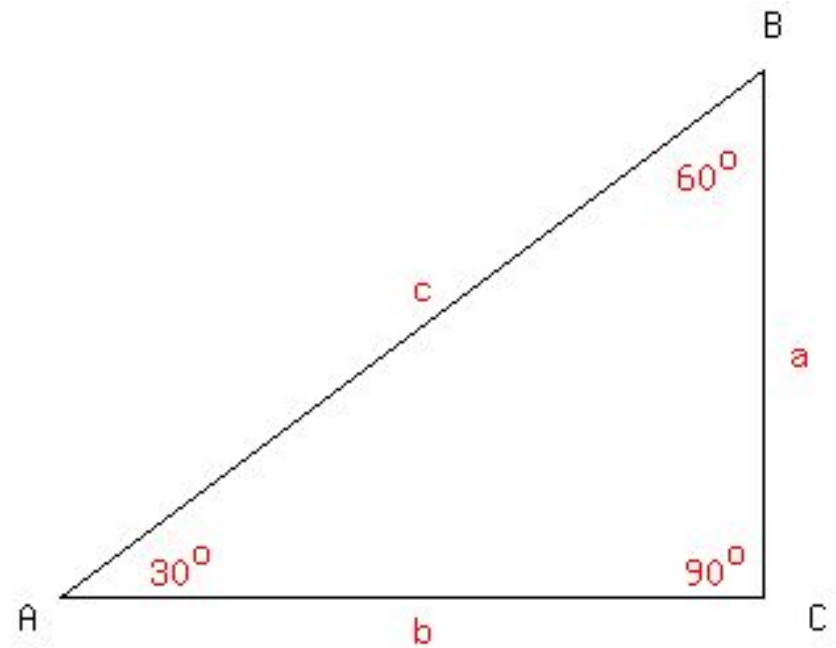


- If a is 5 find b and c

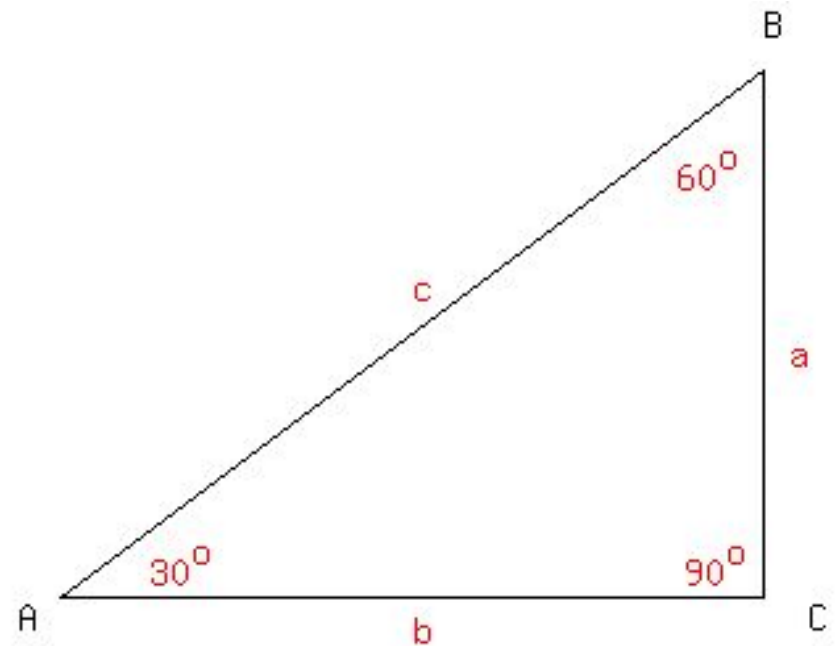
- If a is 4.5 find b and c



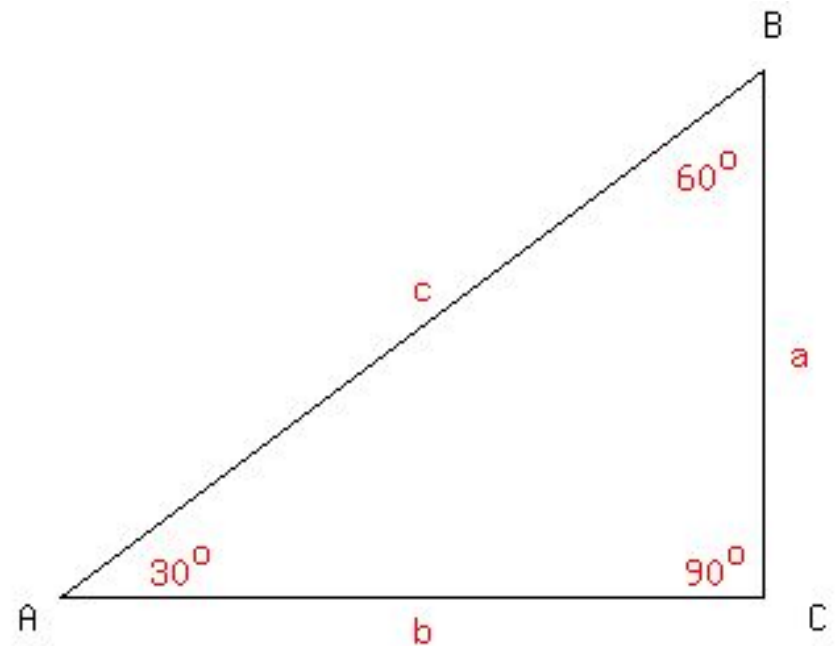
- If a is $2\sqrt{3}$ find b and c
- If a is $1.5\sqrt{3}$ find b and c



- If a is $3/\sqrt{3}$ find b and c
- If a is $5.5/\sqrt{3}$ find b and c

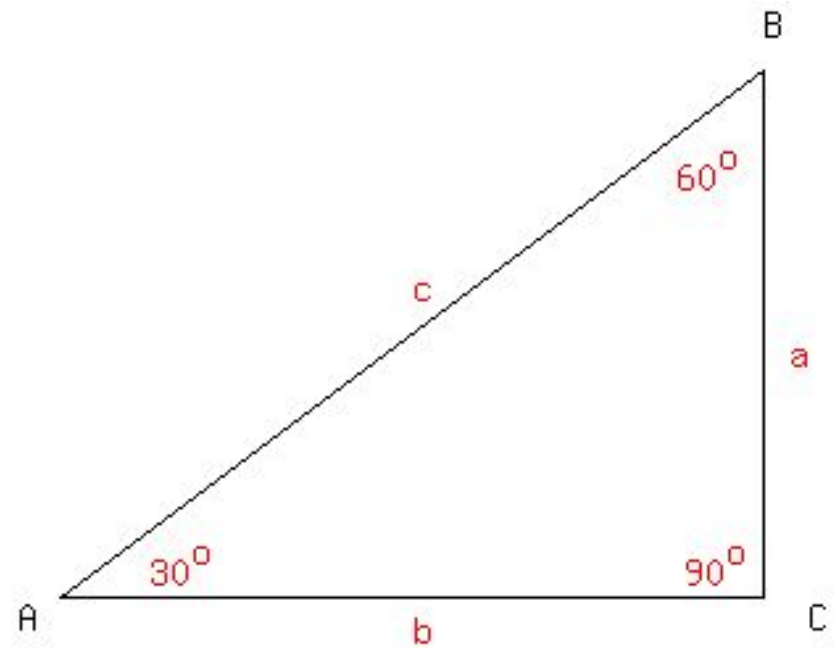


- If b is $4.5\sqrt{3}$ find a and c
- If b is $10\sqrt{3}$ find a and c

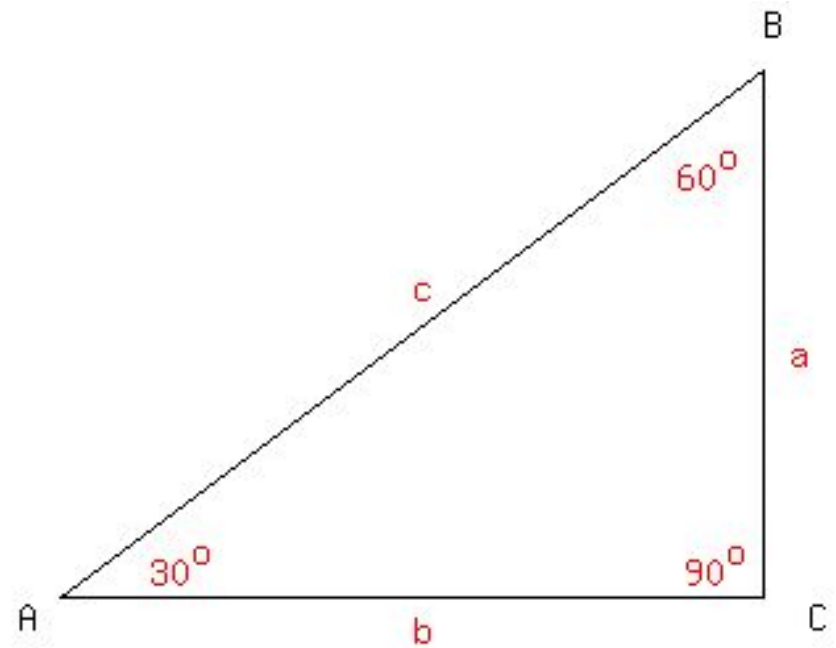


- If b is 9 find a and c

- If b is 10 find a and c

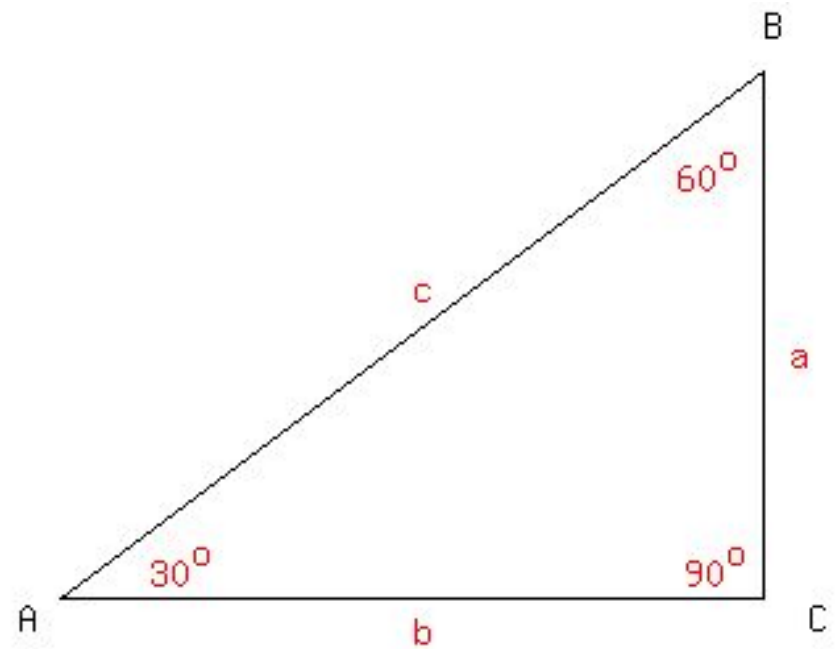


- If b is $2/\sqrt{3}$ find a and c
- If b is $5.5/\sqrt{3}$ find a and c



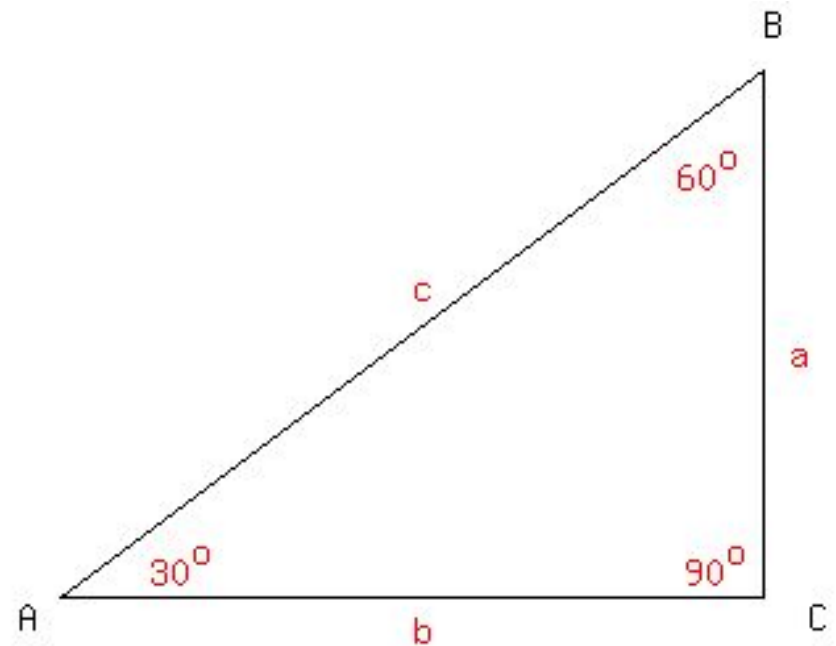
- If c is 2 find a and b

- If c is 5 find a and b



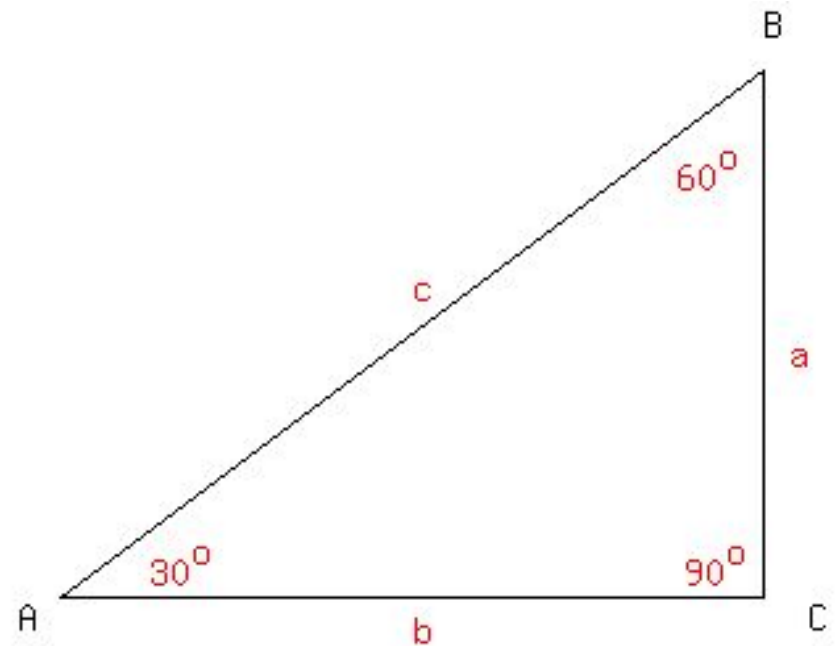
- If c is $4\sqrt{3}$ find a and b

- If c is $6.5\sqrt{3}$ find a and b



- If c is $12/\sqrt{3}$ find a and b

- If c is $14.5/\sqrt{3}$ find a and b



3.1 Using Trigonometry with Right Triangles

- Do-now

Solve for x

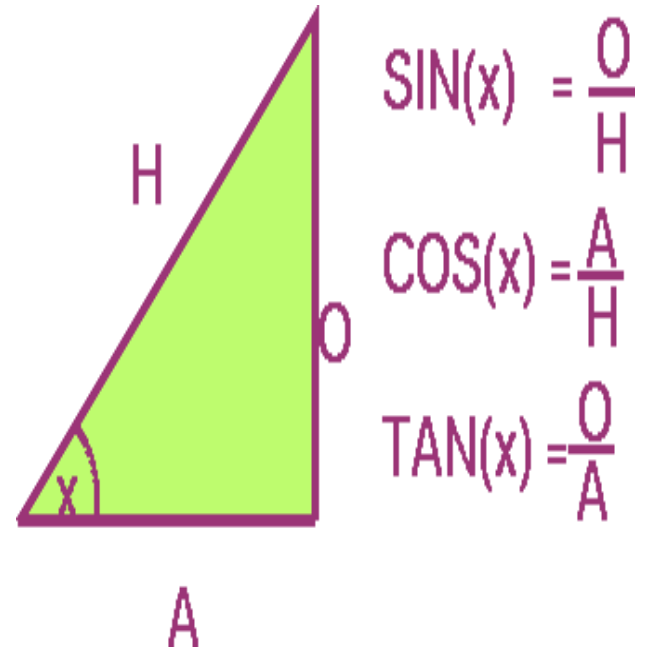
a) $25x^2 - 36 = 0$

b) $x^2 + 14x + 49$

SohCahToa

- $\sin\theta = \text{opposite}/\text{hypotenuse}$
- $\cos\theta = \text{adjacent}/\text{hypotenuse}$
- $\tan\theta = \text{opposite}/\text{adjacent}$

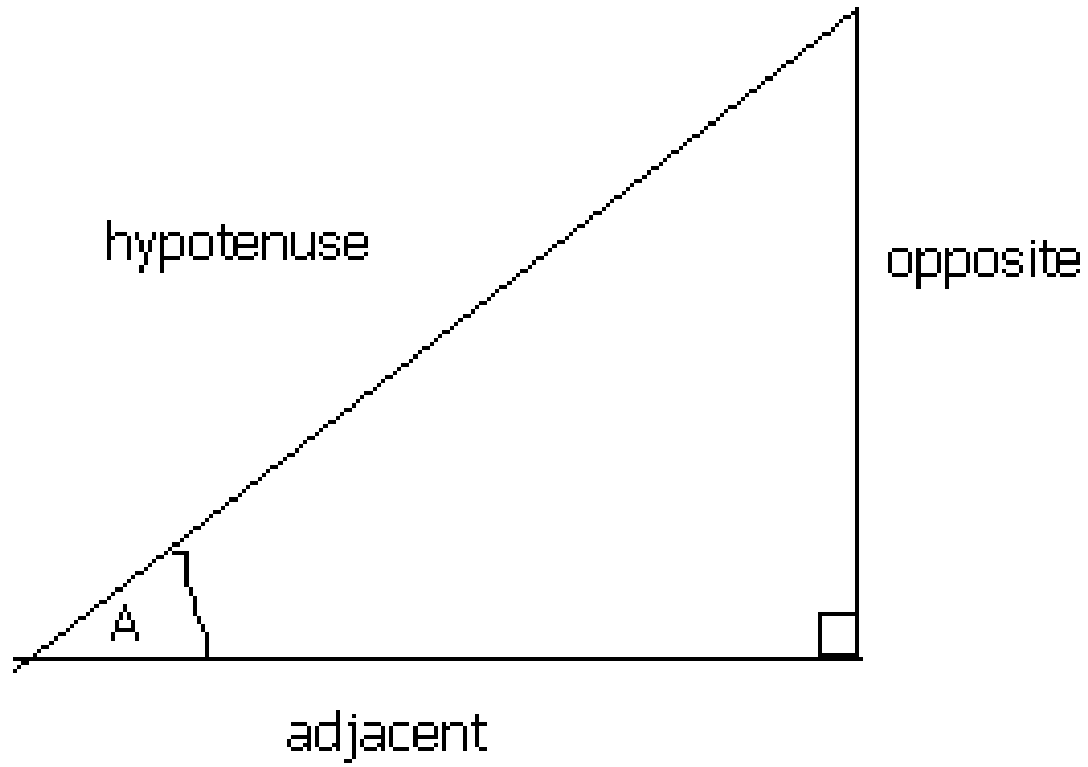
- $\text{cosecant}\theta = \text{hypotenuse}/\text{opposite}$
- $\text{secant}\theta = \text{hypotenuse}/\text{adjacent}$
- $\text{cotangent}\theta = \text{adjacent}/\text{opposite}$



Short Hand

- sine=sin
- cosine=cos
- tangent=tan

- cosecant=csc
- secant=sec
- cotangent=cot



3.1 Using Trigonometry with Right Triangles

- Do-now

Solve for x

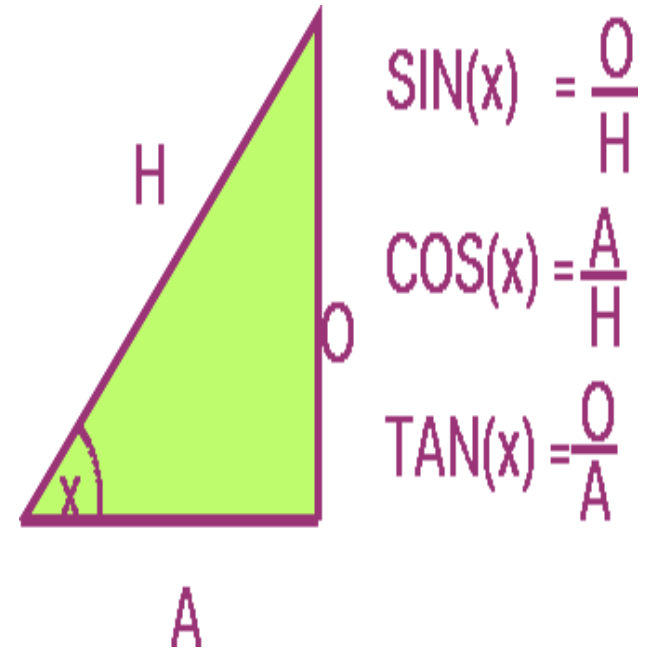
a) $2x^2 + 24x + 72 = 0$

b) $x^2 + 12x + 5 = 0$

- Homework
Worksheet

SohCahToa

- $\sin\theta = \text{opposite}/\text{hypotenuse}$
- $\cos\theta = \text{adjacent}/\text{hypotenuse}$
- $\tan\theta = \text{opposite}/\text{adjacent}$

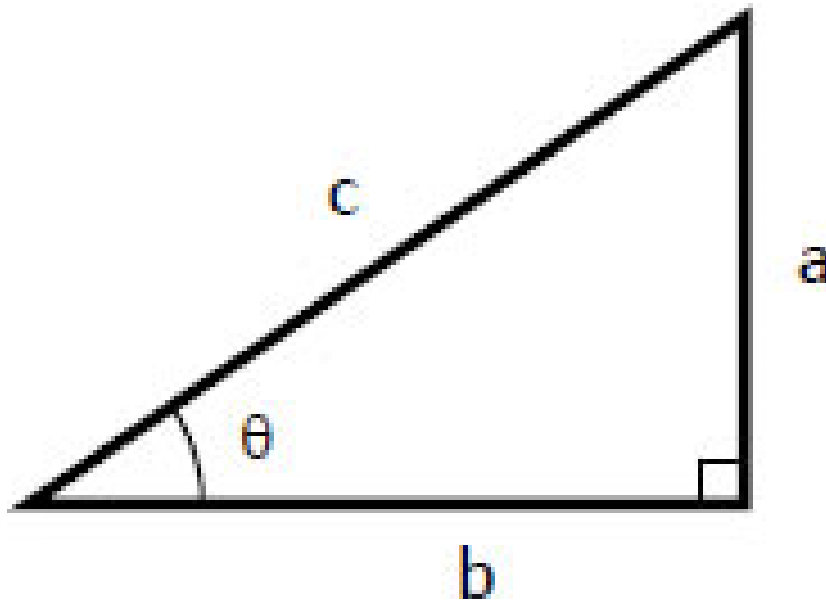


Short Hand

- sine=sin
- cosine=cos
- tangent=tan

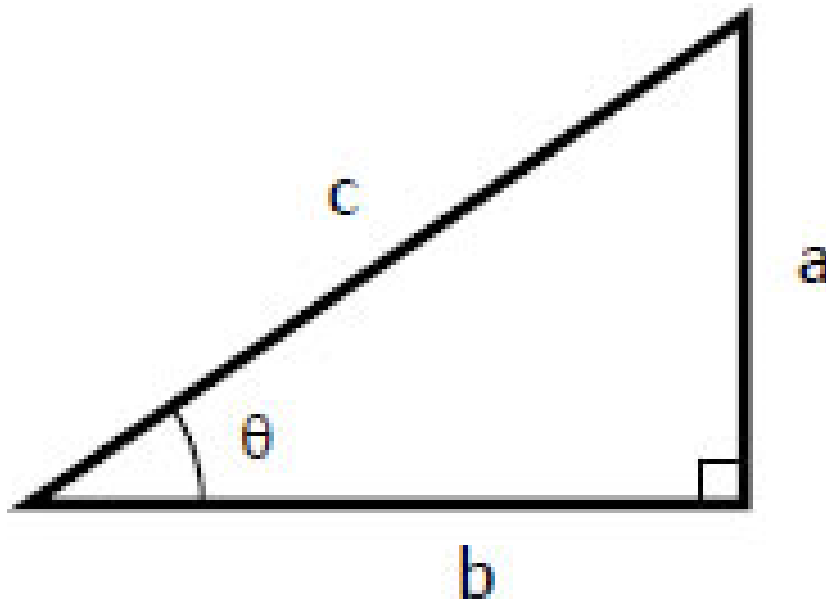
- $a=5$
- $b=12$
- $c=13$

- $\sin\theta=$
- $\cos\theta=$
- $\tan\theta=$



- $a=3$
- $b=4$
- $c=5$

- $\sin\theta=$
- $\cos\theta=$
- $\tan\theta=$



- $a=1$

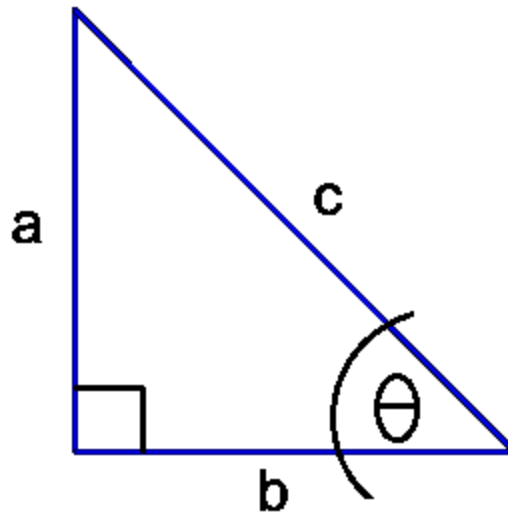
- $b=2$

- $c=?$

- $\sin\theta=$

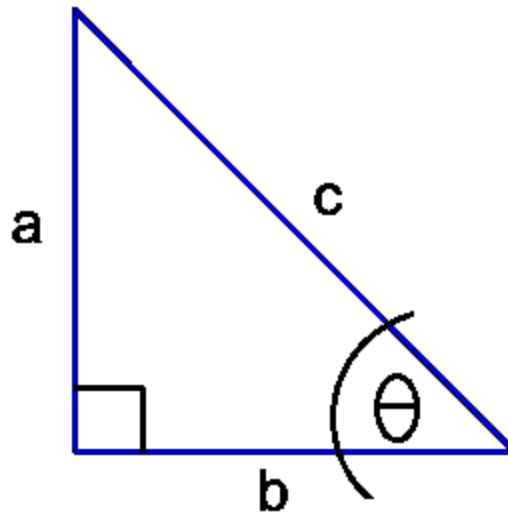
- $\cos\theta=$

- $\tan\theta=$



- $a=8$
- $b=?$
- $c=10$

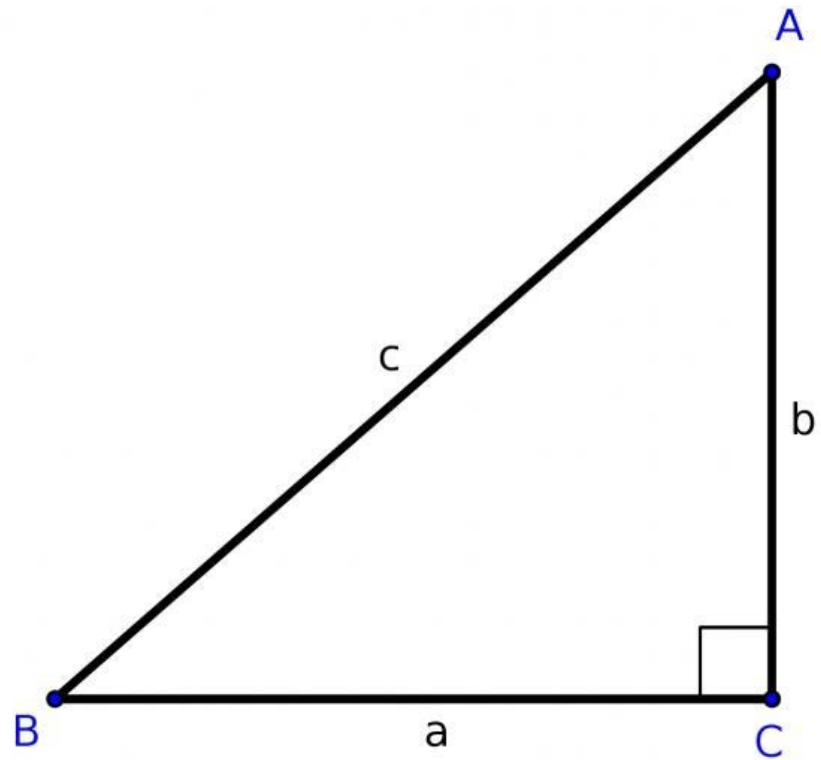
- $\sin\theta=$
- $\cos\theta=$
- $\tan\theta=$



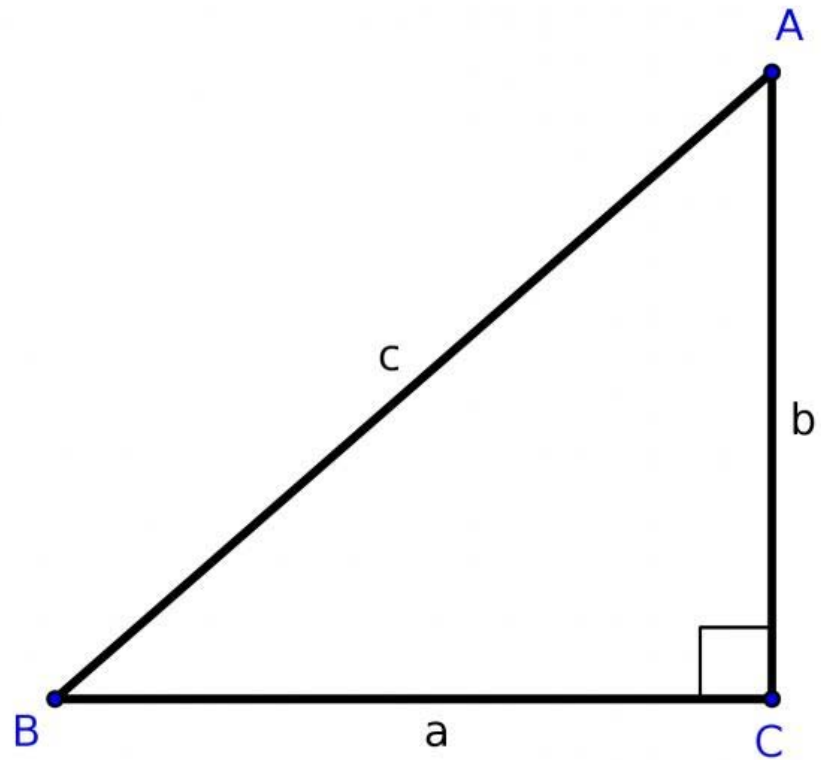
Trigonometric Values for Special Angles

	30°	45°	60°
sin	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$
cos	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$
tan	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$

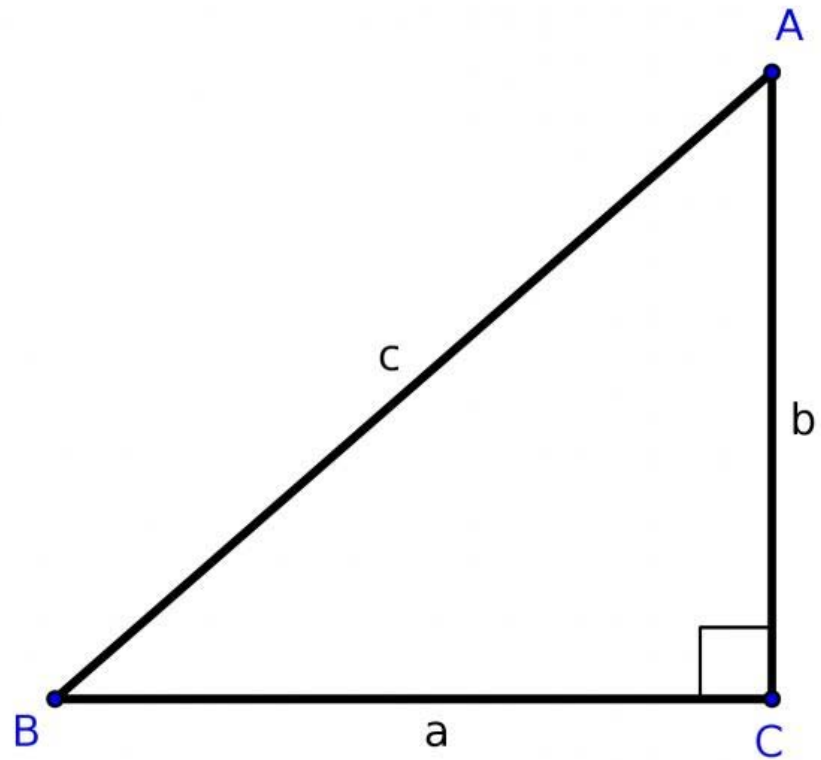
- Angle $B=30^{\circ}$
- $c=8$
- Find the value of a



- Angle $A=60^{\circ}$
- $a=2$
- Find the value of c



- Angle $A=60^{\circ}$
- $a=2\sqrt{3}$
- Find the value of b



13.1 Using Trigonometry with Right Triangles

- Quiz on Chapter 13.1 Thursday (sin, cos, tan, csc, sec, cot)
- I will be available after school on Wednesday.

- Do-now

Graph:

a) $y = |x+4|$

b) $y = |x| + 3$

- Homework

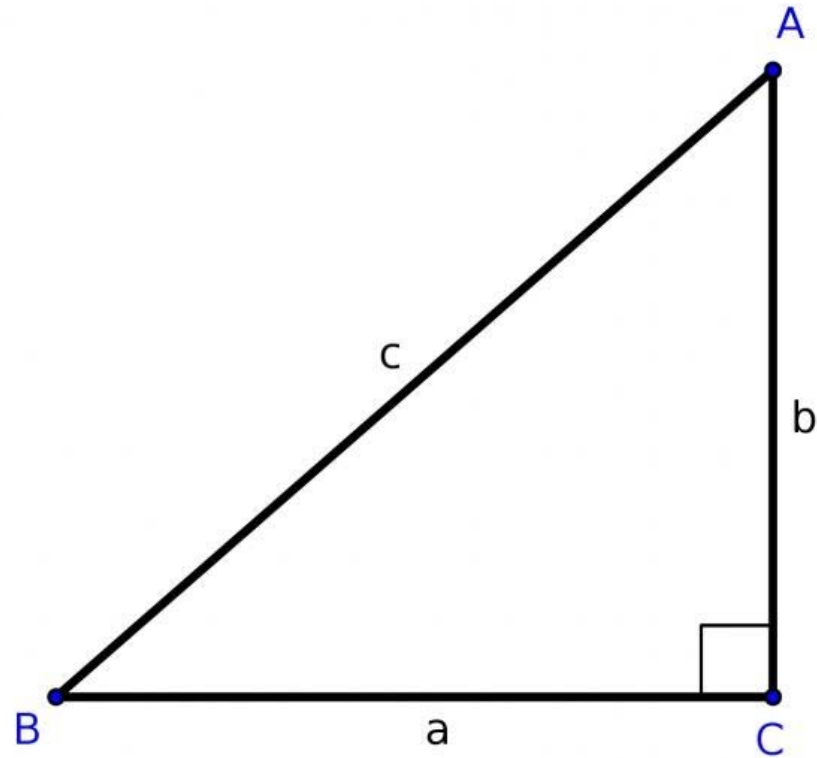
856 (3, 5, 7, 9, 11, 13, 21, 23, 25)

	0	30°	45°	60°	90°
$\sin(\theta)$	0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1
$\cos(\theta)$	1	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$	0
$\tan(\theta)$	0	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$	U
$\csc(\theta)$	U	2	$\sqrt{2}$	$\frac{2}{\sqrt{3}}$	1
$\sec(\theta)$	1	$\frac{2}{\sqrt{3}}$	$\sqrt{2}$	2	U
$\cot(\theta)$	U	$\sqrt{3}$	1	$\frac{\sqrt{3}}{3}$	0

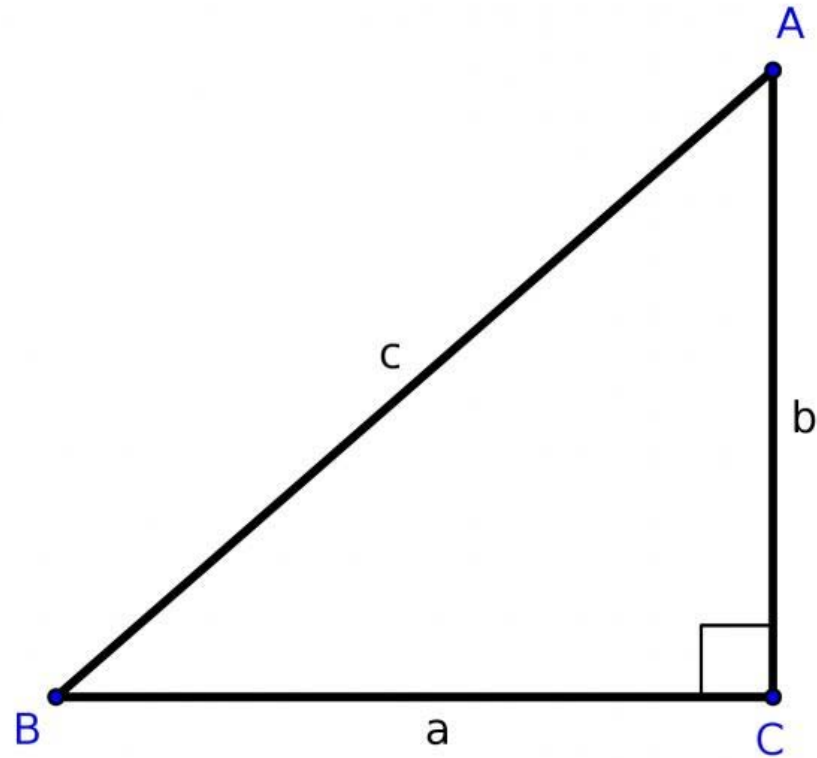
- If we are given $\cos\theta=5/8$ what are the other 5 trigonometric functions of θ ?

- If we are given $\csc\theta=10/7$ what are the other 5 trigonometric functions of θ ?

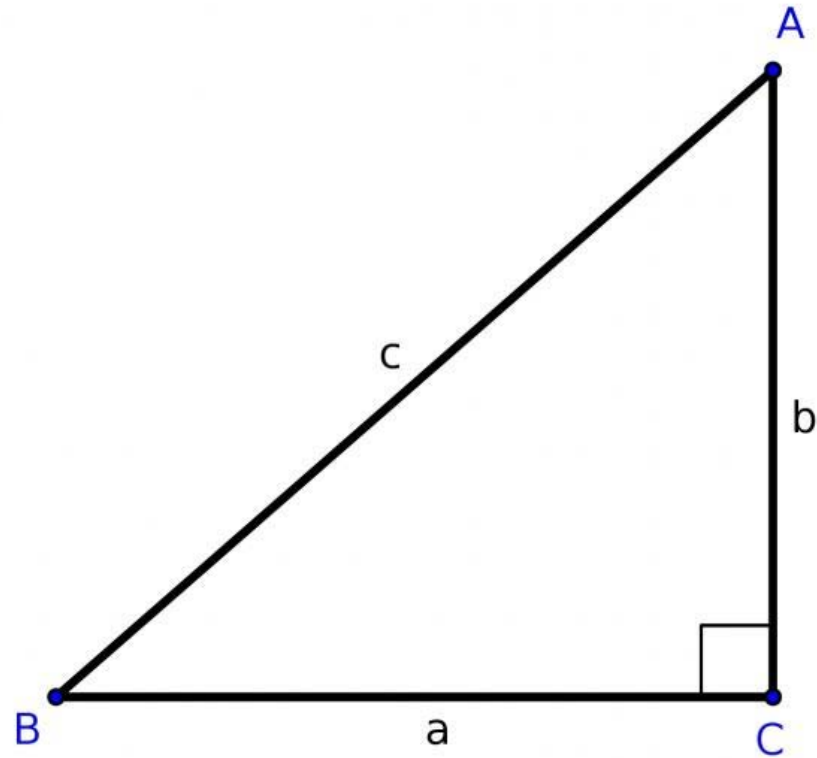
- Angle $B=28^{\circ}$
- $a=15$
- Find the values of length b and c and angle A



- Angle $A=32^{\circ}$
- $b=10$
- Find the values of length a and c and angle B



- Angle $A=71^{\circ}$
- $c=20$
- Find the values of length a and b and angle B



13.2 Define General Angles and Use Radian Measure

- Do now:

solve the following systems of equations

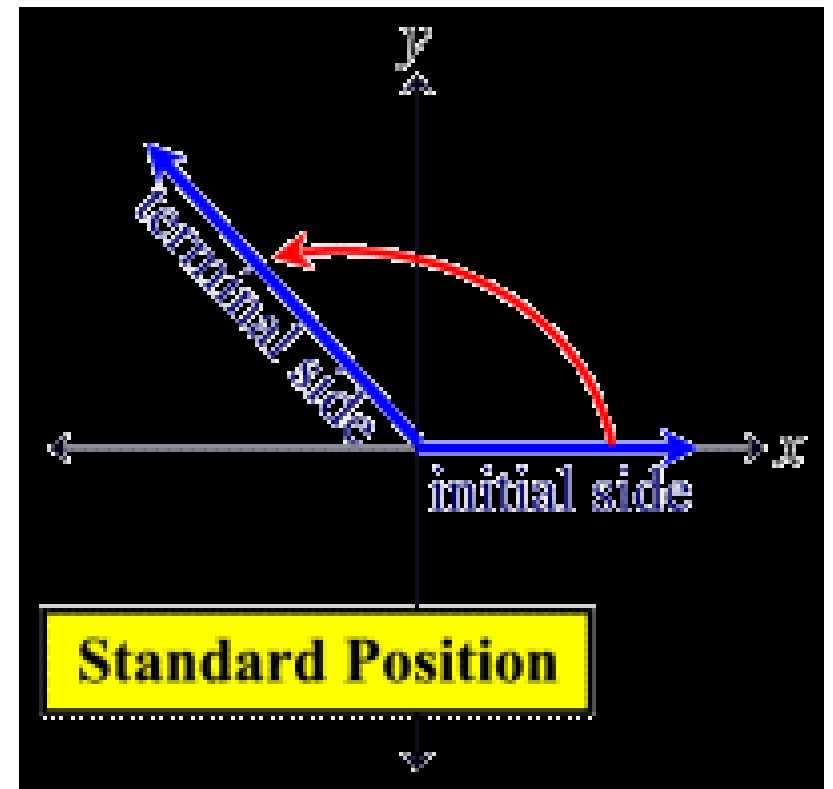
$$2x+5y=-5$$

$$x+3y=3$$

$$4x+3y=-2$$

$$x+5y=-9$$

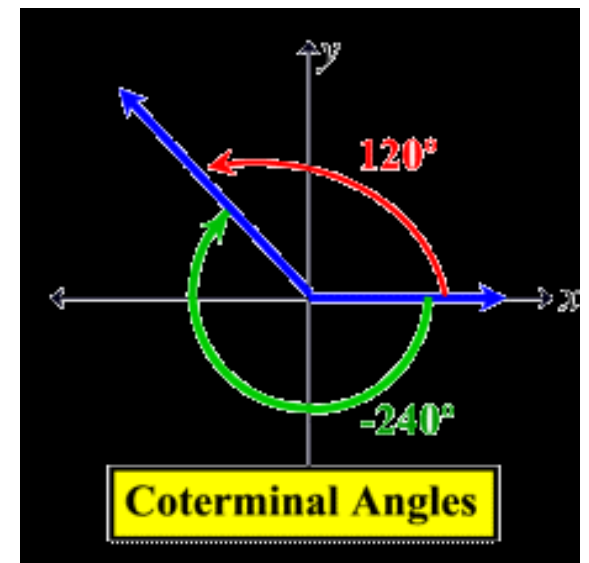
- In a coordinate plane, an angle can be formed by fixing one ray, called the **initial side**, and rotating the other ray, called the **terminal side**, about the vertex.
- An angle is in **standard position** if its vertex is at the origin and its initial side lies on the positive x-axis.



Draw an angle with the given measure
in standard position

- a) 240°
- b) 500°
- c) -50°

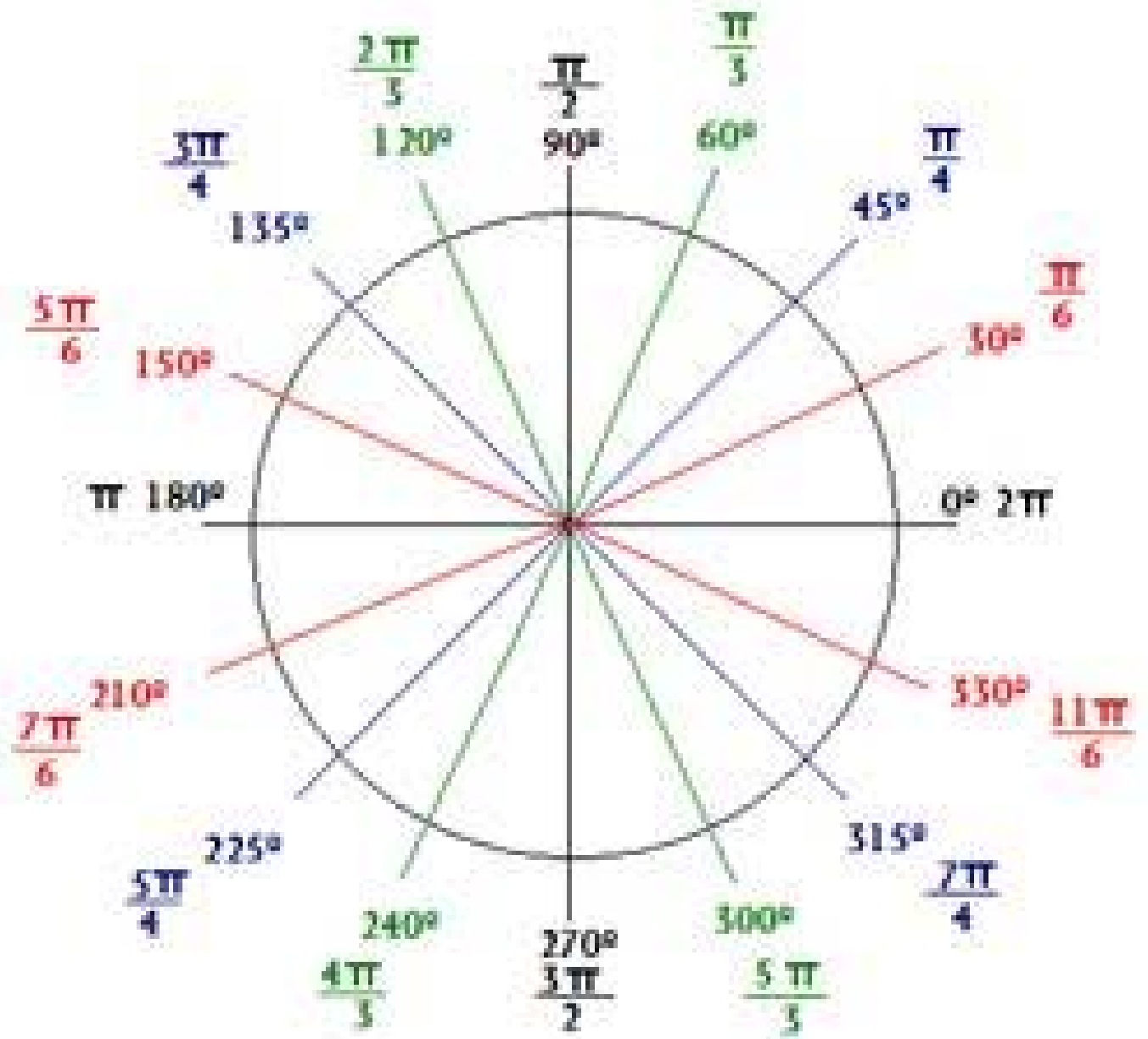
- **Coterminal** angles are angles whose terminal sides coincide
- An angle coterminal with a given angle can be found by adding or subtracting multiples of 360°



- Find one positive and one negative angle that are coterminal with -45° and 395°

- One **radian** is the measure of an angle in standard position whose terminal side intercepts an arc of length r .
- The circumference of a circle is $2\pi r$ therefore there are 2π radians in a full circle

- $360^{\circ} = 2\pi$
- $180^{\circ} = \pi$



Convert

- $125^\circ =$

- $-\pi/12 =$

Arc Length and Area of a Sector

- A sector is a region of a circle bounded by two radii
- The central angle θ of a sector is the angle formed by the two radii

- The arc length s and area A of a sector with radius r and central angle θ (measured in radians) are as follows
- Arc length: $s=r\theta$
- Area: $A=\frac{1}{2}r^2\theta$

Group Work page 863

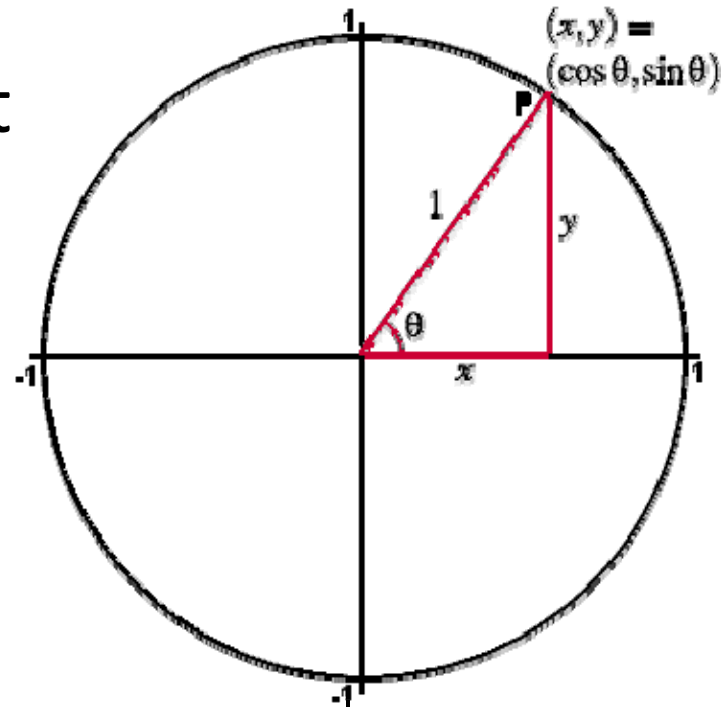
- Draw an angle with the given measure:
 - 6) 110°
 - 10) 6π
 - Find one + and one – coterminal angle
 - 16) 70°
 - 20) $-7\pi/6$
- Convert to degrees or radians
 - 24) 315
 - 26) 500
 - 28) $-\pi/4$
 - 30) $14\pi/3$

13.3 Evaluate Trigonometric Functions of Any Angle

- Homework 870 (13, 15, 17, 19, 25, 27, 29, 31)

General Definitions of Trigonometric Functions

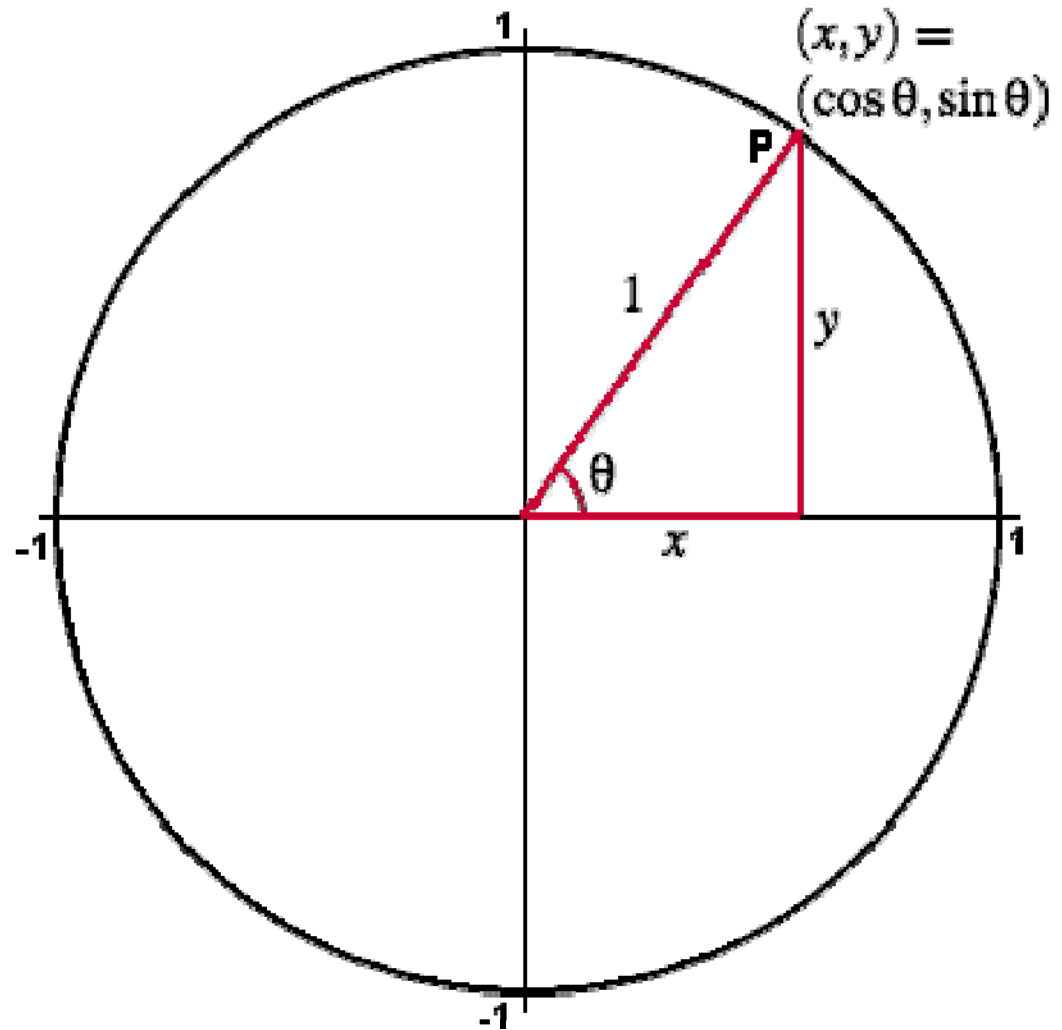
- Let θ be an angle in standard position, and let (x, y) be the point where the terminal side of θ intersects the circle $x^2 + y^2 = c^2$.



Circular Functions

- $\sin \theta = y/r$
- $\cos \theta = x/r$
- $\tan \theta = y/x, x \neq 0$

- $\csc \theta = r/y, y \neq 0$
- $\sec \theta = r/x, x \neq 0$
- $\cot \theta = x/y, y \neq 0$



The Unit Circle

- The circle $x^2+y^2=1$ which has center $(0,0)$ and radius 1 is called the **unit circle**. The values of $\sin\theta$ and $\cos\theta$ are simply the y -coordinate and x -coordinate, respectively, of the point where the terminal side of θ intersects the unit circle.
- $\sin \theta = y/r = y/1 = y$
- $\cos \theta = x/r = x/1 = x$

Quadrantal Angle

- A **quadrantal angle** is an angle in standard position whose terminal side lies on an axis. T
- The measure of a quadrantal angle is always a multiple of 90° or $\pi/2$ radians.

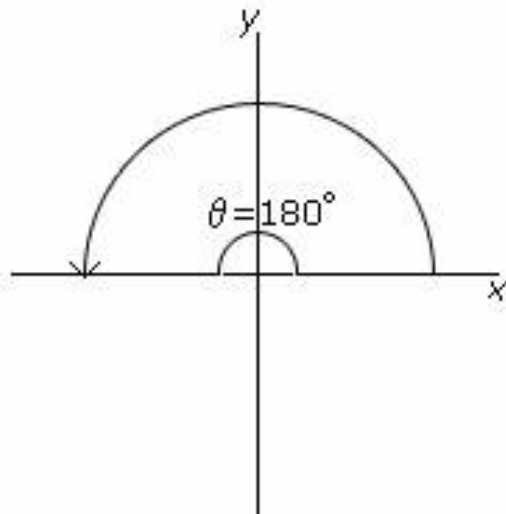


Figure 1

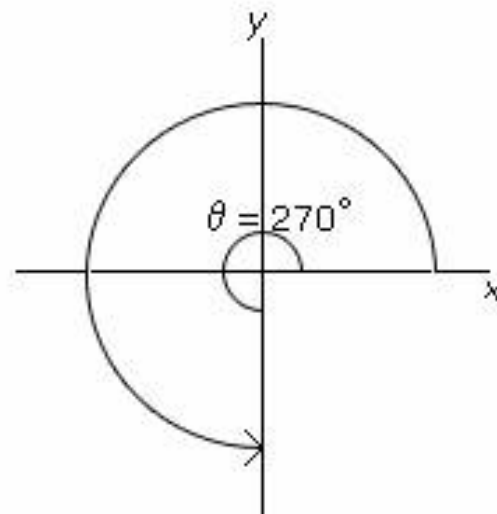
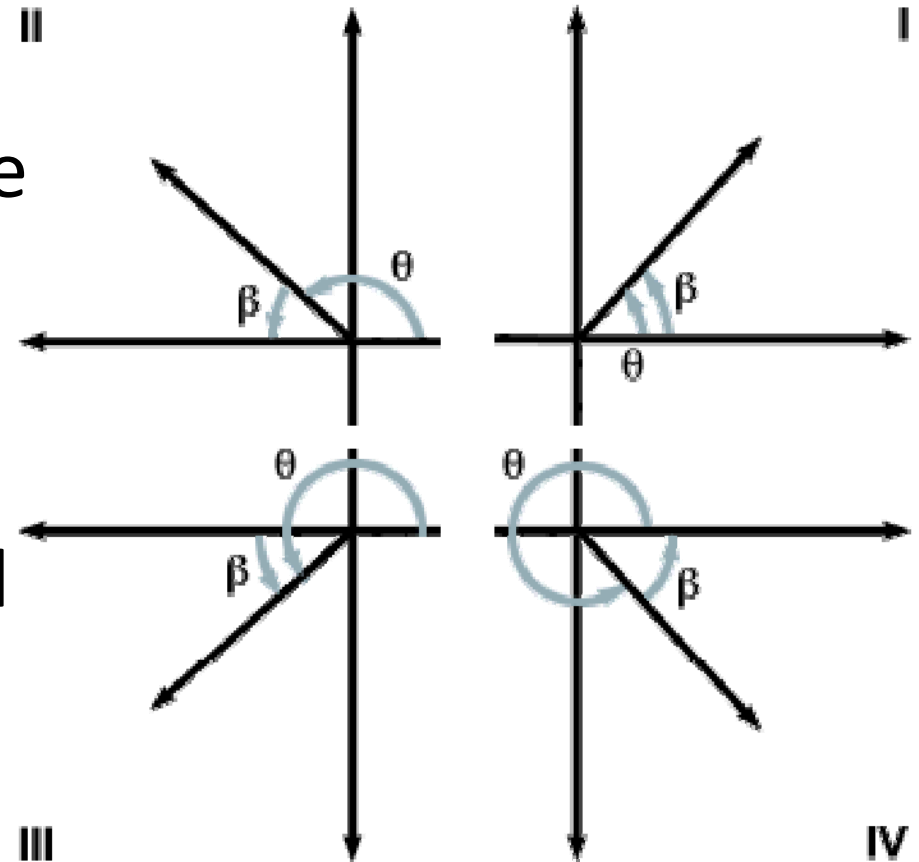


Figure 2

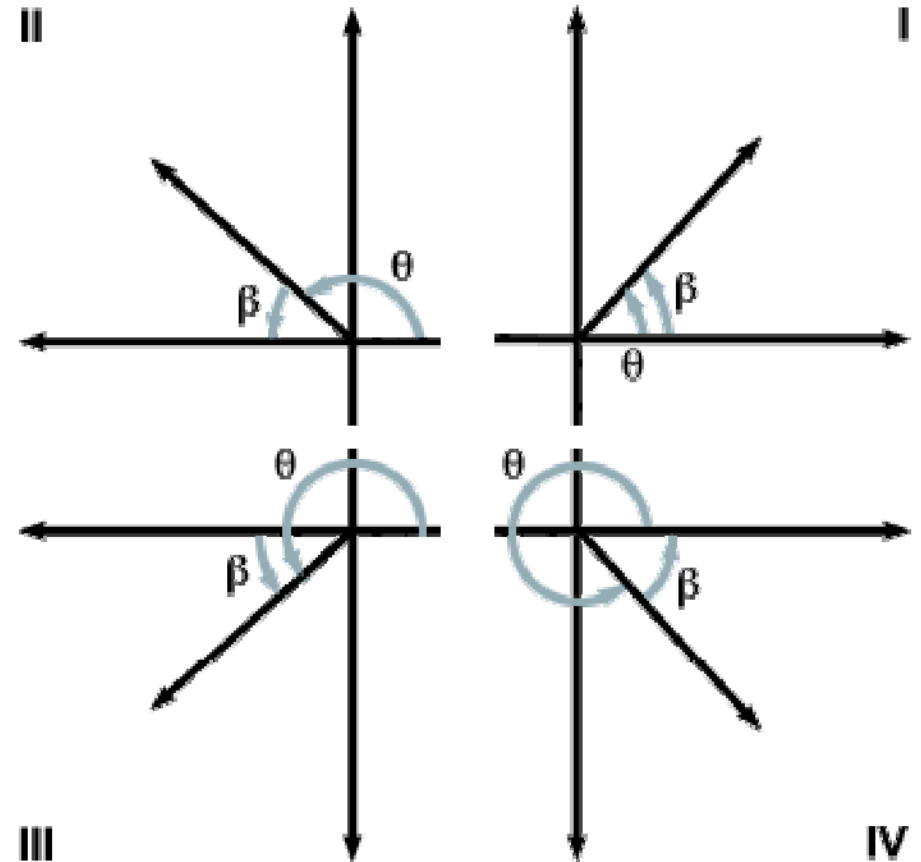
Reference Angle

- Let θ be an angle in standard position. The **reference angle** for θ is the acute angle θ' formed by the terminal side of θ and the x-axis.



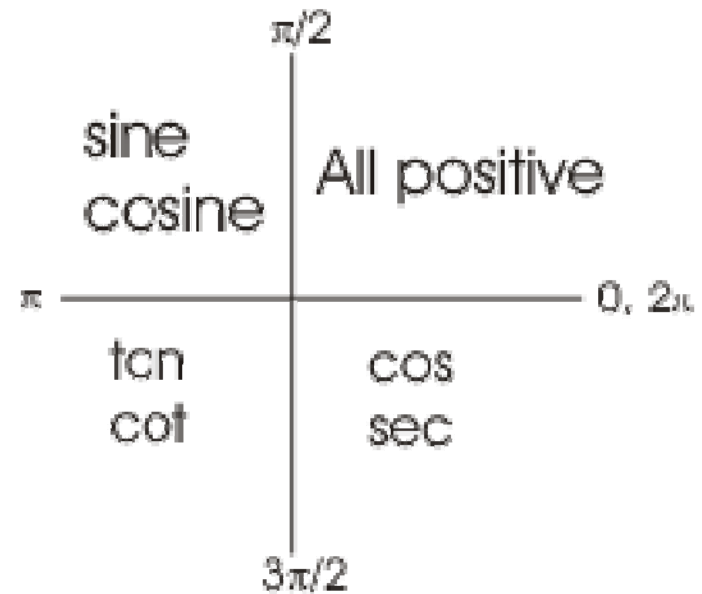
Reference Angle

- Quadrant II=
 $\theta' = 180^\circ - \theta$
 $\theta' = \pi - \theta$
- Quadrant III=
 $\theta' = \theta - 180^\circ$
 $\theta' = \theta - \pi$
- Quadrant IV=
 $\theta' = \theta - 360^\circ$
 $\theta' = \theta - 2\pi$



Evaluating Trigonometric Functions

- 1) Find the reference angle θ'
- 2) Evaluate the trigonometric function for θ'
- 3) Determine the sign of the trigonometric function value from the quadrant in which θ lies



13.3 Evaluate Trigonometric Functions of Any Angle

- Homework 870 (12, 14, 16, 18, 24, 26, 28, 30)

- Do now

Factor

$$x^2+6x+9=0$$

$$x^2-81=0$$

- Quiz on everything in chapter 13 Wednesday
- I will be staying after Tuesday, not Wednesday

13.5 Apply the Law of Sines

- Do now

Find the vertex

$$y=x^2+1$$

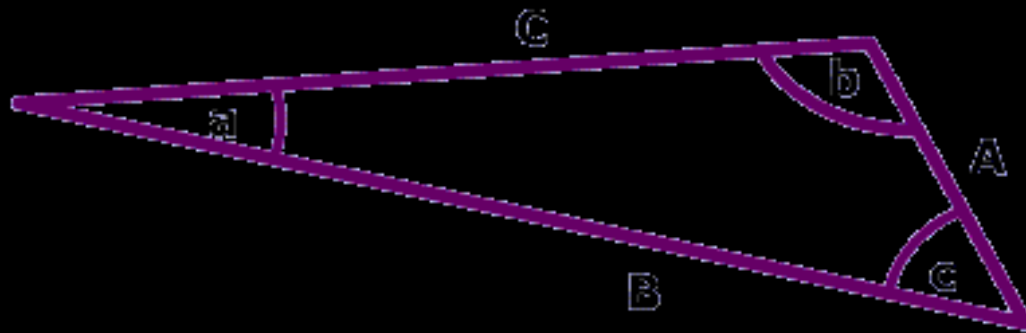
$$y=(x-2)^2$$

- Homework 886 (3, 5, 7, 13, 15, 19, 21, 29, 31)

- Law of sines is used when you don't have a right triangle
- You will need to know one side and any two other parts (AAS, ASA, or SSA)

Law of Sines

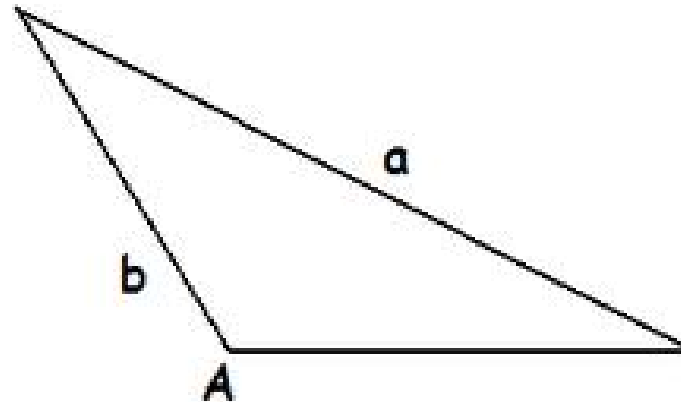
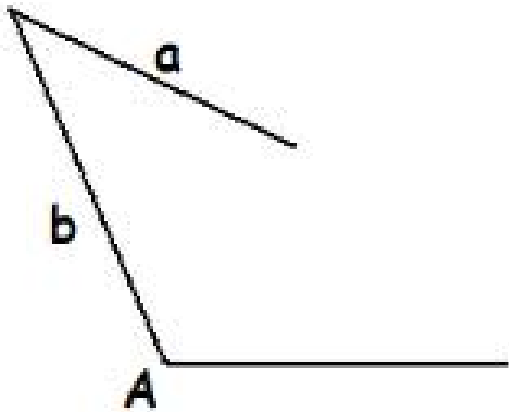
$$\frac{\sin(a)}{A} = \frac{\sin(b)}{B} = \frac{\sin(c)}{C}$$



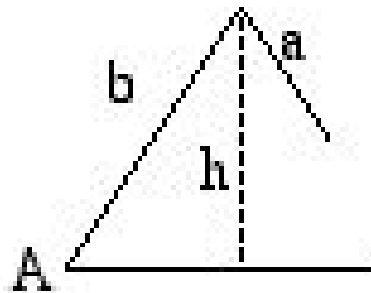
$$\frac{A}{\sin(a)} = \frac{B}{\sin(b)} = \frac{C}{\sin(c)}$$

SSA where A is obtuse

- $a > b$ in order to form a triangle

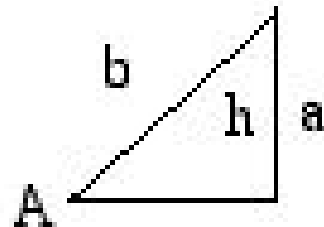


SSA where A is Acute



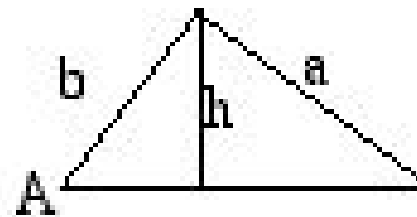
$$a < h$$

No triangle



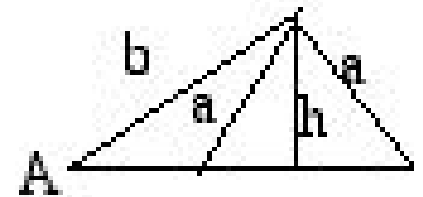
$$a = h$$

One



$$a > b$$

One

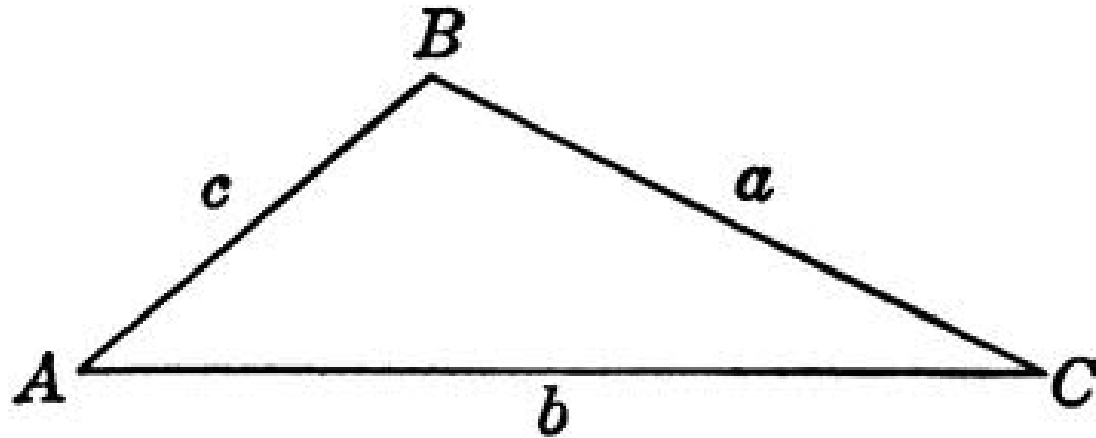


$$h < a < b$$

Two

Area of a Triangle

$$\textit{Area} = \frac{1}{2}bc \sin A = \frac{1}{2}ab \sin C = \frac{1}{2}ac \sin B$$



13.6 Apply the Law of Cosines

- Do now

Find the vertex

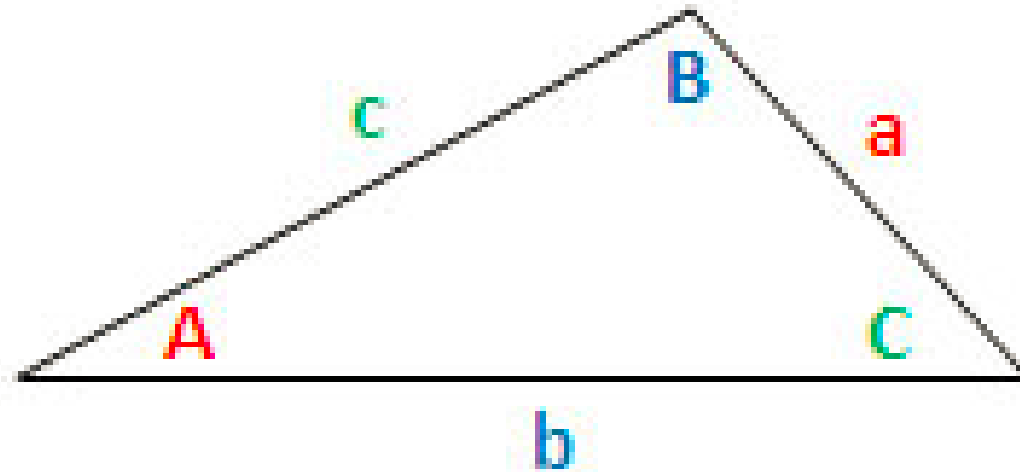
$$y=x^2+1$$

$$y=(x+3)^2$$

- Homework 886 (3, 5, 7, 13, 15, 19, 21, 29, 31)

- Law of sines is used for AAS, ASA, or SSA
- Law of cosines is used for SAS or SSS

Law of Cosines



$$a^2 = b^2 + c^2 - 2bc \cos A$$

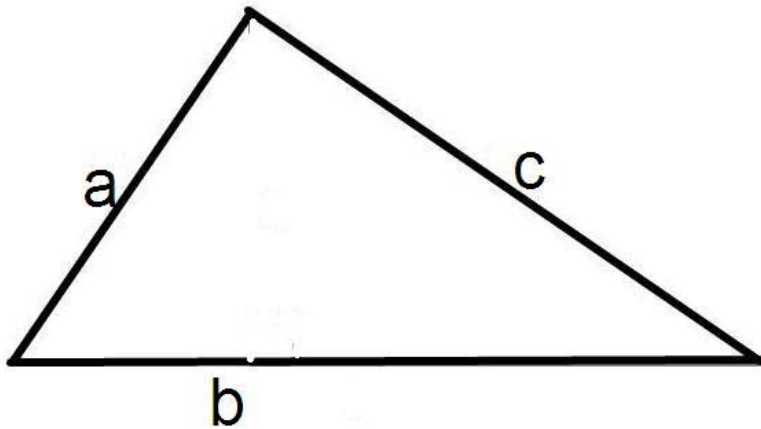
$$b^2 = a^2 + c^2 - 2ac \cos B$$

$$c^2 = a^2 + b^2 - 2ab \cos C$$

Heron's Area Formula

$$A = \sqrt{s(s-a)(s-b)(s-c)}$$

$$\text{where } s = \frac{1}{2}(a+b+c)$$



Name _____

Algebra 2- Section 13.1

Evaluate the three trigonometric functions

1) $a=4$

$b=3$

$c=$ _____

$\sin B=$ _____

$\cos B=$ _____

$\tan B=$ _____

2) $a=9$

$b=$ _____

$c=14$

$\sin A=$ _____

$\cos A=$ _____

$\tan A=$ _____

3) $a=7$

$b=$ _____

$c=15$

$\sin B=$ _____

$\cos B=$ _____

$\tan B=$ _____

4) $a=$ _____

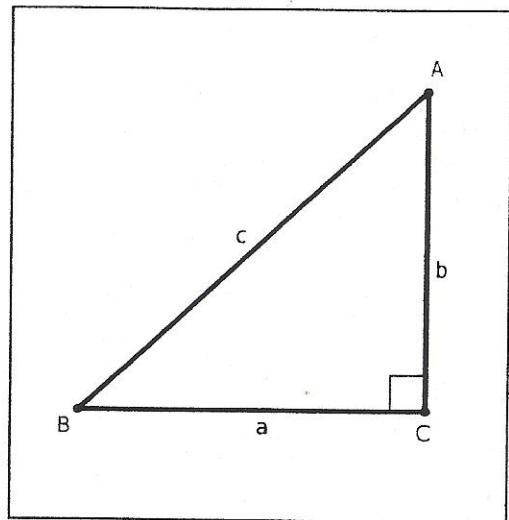
$b=11$

$c=8$

$\sin A=$ _____

$\cos A=$ _____

$\tan A=$ _____



This worksheet was taken from Textbook (McDougal Alg 2)

Name _____

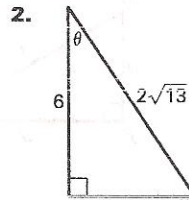
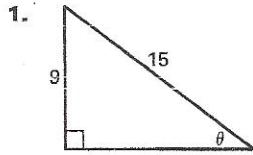
Date _____

LESSON
13.1

Practice

For use with pages 852-858

Evaluate the six trigonometric functions of the angle θ .



Let θ be an acute angle of a right triangle. Find the values of the other five trigonometric functions of θ .

3. $\sin \theta = \frac{4}{5}$

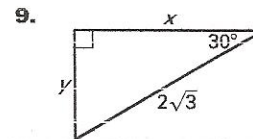
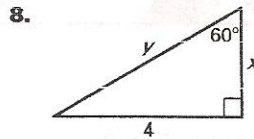
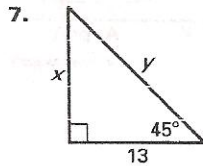
4. $\cos \theta = \frac{5}{6}$

5. $\sec \theta = \frac{\sqrt{73}}{8}$

6. $\cot \theta = \sqrt{3}$

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Find the exact values of x and y .



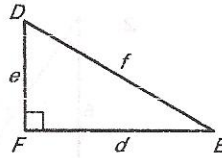
Name _____

Date _____

LESSON 13.1 Practice *continued*
For use with pages 852-858

Solve $\triangle DEF$ using the diagram and the given measurements.

10. $D = 40^\circ, f = 8$



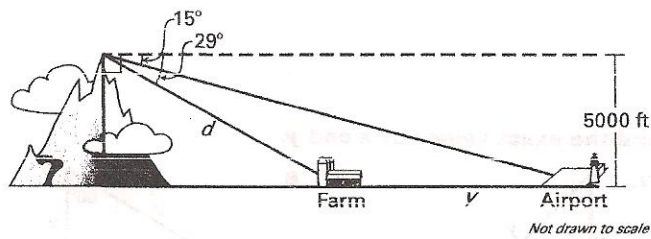
11. $E = 53^\circ, d = 13$

12. $D = 67^\circ, e = 10.5$

13. **Shadow** A person casts the shadow shown. What is the approximate height of the person?



14. **Mountains** A hiker at the top of a mountain sees a farm and an airport in the distance.
- What is the distance d from the hiker to the farm?



- What is the distance y from the farm to the airport?

This worksheet was taken from text (McDougal Algebra 2)

Name _____

Date _____

LESSON
133

Practice

For use with pages 866-872

Use the given point on the terminal side of an angle θ in standard position to evaluate the six trigonometric functions of θ .

1. $(8, -15)$

2. $(-7, -2)$

Evaluate the six trigonometric functions of θ .

3. $\theta = 90^\circ$

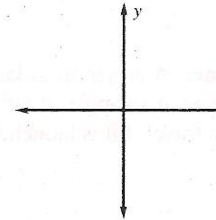
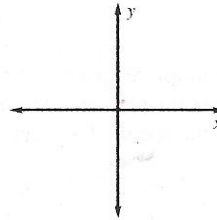
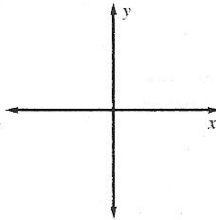
4. $\theta = -\pi$

Sketch the angle. Then find its reference angle.

5. -115°

6. 125°

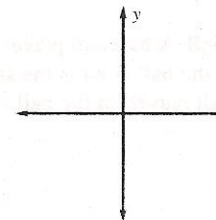
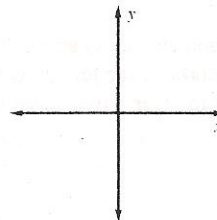
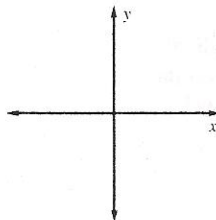
7. 325°



8. $-\frac{17\pi}{6}$

9. $-\frac{7\pi}{4}$

10. $\frac{11\pi}{3}$



This worksheet was taken from text (McDougal Algebra 2)

Name _____

Date _____

LESSON
13.3

Practice *continued*
For use with pages 866–872

Evaluate the function without using a calculator.

11. $\sin 240^\circ$

12. $\tan 150^\circ$

13. $\sec(-315^\circ)$

14. $\cot(-150^\circ)$

15. $\cos\left(-\frac{3\pi}{4}\right)$

16. $\csc \frac{7\pi}{6}$

17. $\tan \frac{8\pi}{3}$

18. $\sin\left(-\frac{5\pi}{6}\right)$

19. **Distance** A projectile is launched with an initial speed of 42 feet per second. It is projected at an angle of 50° . How far does the projectile travel? How much farther does it travel if it is launched with an initial speed of 84 feet per second?

20. **Baseball** A baseball player hits a ball projected at an angle of 40° . The height at which the ball is hit is the same as the height of the fence. At what speed must the baseball player hit the ball in order for it to clear a fence that is 385 feet away?

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This worksheet was taken from textbook (McDougal Alg 2)

Name _____

Date _____

LESSON
13.2

Practice

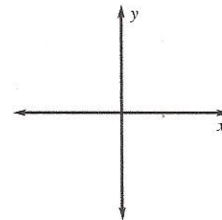
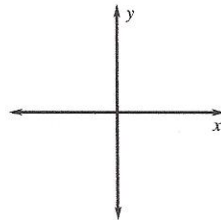
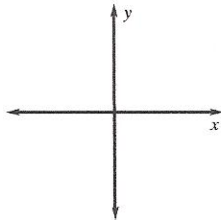
For use with pages 859–865

Draw an angle with the given measure in standard position.

1. 130°

2. $\frac{5\pi}{4}$

3. $-\frac{2\pi}{3}$



Find one positive angle and one negative angle that are coterminal with the given angle.

4. -35°

5. 280°

6. $-\frac{\pi}{6}$

7. $\frac{7\pi}{5}$

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Convert the degree measure to radians or the radian measure to degrees.

8. 270°

9. -135°

10. $\frac{11\pi}{6}$

11. $-\frac{\pi}{18}$

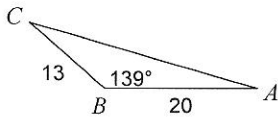
Assignment

Name _____

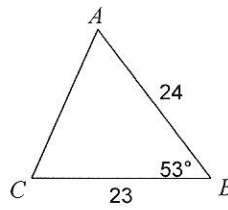
Date _____ Period _____

Solve each triangle. Round your answers to the nearest tenth.

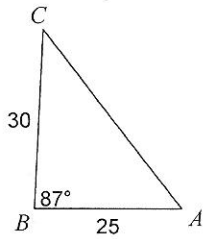
1)



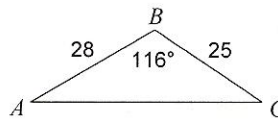
2)



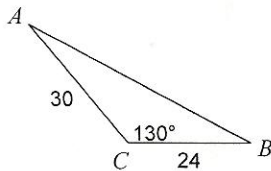
3)



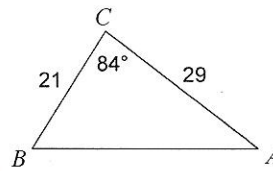
4)



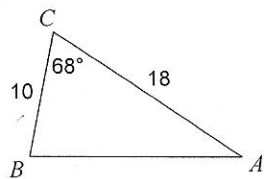
5)



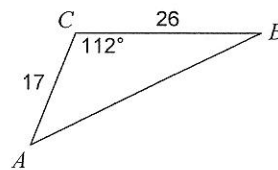
6)



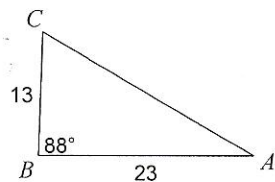
7)



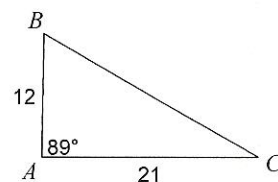
8)



9)



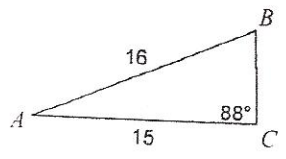
10)



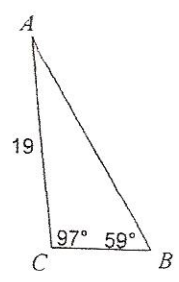
Assignment

Solve each triangle. Round your answers to the nearest tenth.

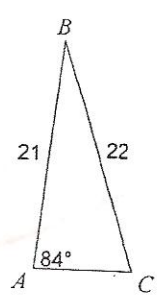
1)



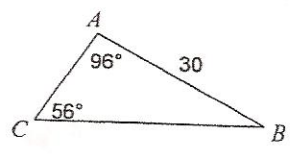
2)



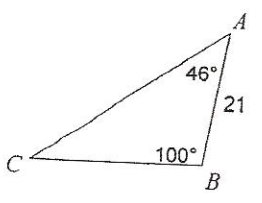
3)



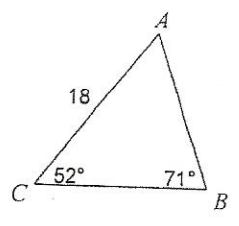
4)



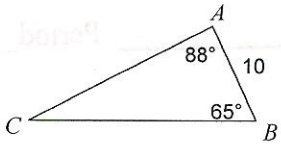
5)



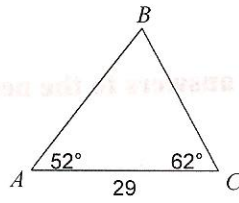
6)



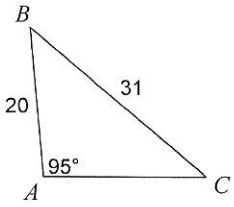
7)



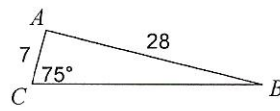
8)



9)



10)



Algebra 2-Period 2		HW 9	HW 10	Attendance	A-Attendance	Attendance	Attendance	Attendance	Attendance	Attendance
		3-15	3-17	3-18	3-21	3-22	3-23	3-24	3-25	
Stephanie Aboody	103537	✓	✓	✓	✓	T	T	T	✓	
Eneri Brambila	113037	M	M	✓	✓	✓	✓	✓	✓	
Brenda Caban	105084	✓		✓	✓	T	T	T	✓	
Nicholas Ceffalo	102129	Abs	✓	✓	✓	✓	✓	✓	✓	
Joris Cipi	133447	✓	✓	✓	✓	T	T	T	✓	
Jessica Cone	102614	✓	✓	✓	✓	✓	✓	✓	✓	
Andrew Coral	106232	✓	✓	✓	✓	T	T	T	✓	
Paulin Cule	103584	✓	✓	✓	✓	T	T	T	✓	
Ambra Dhima	111843	✓	✓	✓	✓	T	T	T	✓	
Marcel Elliott	26350	✓		✓	✓	✓	✓	✓	✓	
Marissa Ferrante	103752	Abs	✓	✓	✓	✓	✓	✓	✓	
Anna Figueroa	106335	✓	✓	✓	✓	T	T	T	✓	
Alexa Gjonca	108891	✓	✓	✓	✓	T	T	T	✓	
Michelle Hanna	103178	✓	✓	✓	✓	✓	✓	✓	✓	
Mikel Kota	119930	✓	✓	✓	✓	T	T	T	✓	
Kevin Kovi	107985	✓	✓	✓	✓	T	T	T	✓	
Jibreel Mustafa	103784	✓	M	✓	✓	T	T	T	✓	
Josephine Nguyen	103078	✓	✓	✓	✓	✓	✓	✓	✓	
Nicole Phan	103293	✓	✓	✓	✓	T	T	T	✓	
Lina Rosario	104071	✓	✓	✓	✓	✓	✓	✓	✓	
Srayluckyna Thach	101752	✓		✓	✓	✓	✓	✓	✓	
Rose Thomas	18828	M	✓	✓	✓	✓	✓	✓	✓	
Phuong Tran <i>Misc</i>	26080	✓	✓	✓	✓	✓	✓	✓	✓	
Jonathan Whiting	103206	✓	✓	✓	✓	T	T	T	✓	
Danielle Willett	103059	Abs	✓	✓	✓	T	T	T	✓	
Brett Zawielski	20018	✓	M	✓	✓	✓	✓	✓	✓	

Algebra 2-Period 2	APRIL	HW 11	HW 12	Attendance	Attendance	HW 13
Stephanie Aboody	103537	3-28 ✓	3-29 ✓	✓	✓	4-5 ✓
Eneri Brambila	113037	M	✓	✓	✓	M ✓
Brenda Caban	105084	✓	✓	✓	✓	✓
Nicholas Ceffalo	102129	✓	✓	A	✓	✓
Joris Cipi	133447	✓	✓	✓	✓	✓
Jessica Cone	102614	✓	✓	✓	✓	✓
Andrew Coral	106232	✓	✓	✓	✓	✓
Paulin Cule	103584	✓	✓	✓	✓	✓
Ambra Dhima	111843	✓	✓	✓	✓	✓
Marcel Elliott	26350	✓	✓	✓	✓	✓
Marissa Ferrante	103752	✓	✓	✓	✓	✓
Anna Figueroa	106335	✓	✓	✓	✓	✓
Alexa Gjonca	108891	3-28 M	✓	A	✓	✓
Michelle Hanna	103178	M	✓	A	✓	✓
Mikel Kota	119930		✓	✓	✓	✓
Kevin Kovi	107985	✓	ABSE ✓	✓	✓	✓
Jibreel Mustafa	103784	M	✓	✓	✓	✓
Josephine Nguyen	103078	M	✓	A	✓	✓
Nicole Phan	103293	✓	✓	✓	✓	✓
Lina Rosario	104071	✓	✓	✓	✓	✓
Srayluckyna Thach	101752	✓	✓	✓	✓	✓
Rose Thomas	18828	✓	✓	A	✓	Abi ✓
Phuong Tran <i>MeMe</i>	26080	✓	✓	✓	✓	✓
Jonathan Whiting	103206	✓	✓	✓	✓	✓
Danielle Willett	103059	✓	✓	✓	✓	✓
Brett Zawielski	20018	M	✓	✓	✓	✓

Algebra 2-Period 3		Flw 9	HW 10	Attendance	Attendance	Attendance	Attendance	Attendance	Attendance
Marian Amonoo-Afari	135017	✓	✓	✓	✓	✓	✓	✓	✓
Julie Arakelian	106953	✓	✓	✓	✓	✓	✓	✓	✓
Cameron Blondin	112547	✓	✓	✓	✓	✓	✓	✓	✓
Nana Boateng	123796	✓	✓	✓	✓	✓	✓	✓	✓
Kayla Cormier	19941	Abs	✓	✓	✓	✓	✓	✓	✓
Bruna DaSilva	139400	M	M	✓	✓	✓	✓	✓	✓
Shuvojit Dutta	103491	✓	✓	✓	✓	✓	✓	✓	✓
Alexander Elkins	101693	✓	✓	✓	✓	✓	✓	✓	✓
Chelsea Fairweather	118145	✓	✓	✓	✓	✓	✓	✓	✓
Kristina Ferranto	105098	✓	✓	✓	✓	✓	✓	✓	✓
Rachel Flynn	103695	✓	✓	✓	✓	✓	✓	✓	✓
Madeleine Fontaine	21144	✓	✓	✓	✓	✓	✓	✓	✓
Adam Goldstein	104064	✓	✓	✓	✓	✓	✓	✓	✓
Emi Gollosi	25314	✓	✓	✓	✓	✓	✓	✓	✓
Jennifer Jones	103277	✓	✓	✓	✓	✓	✓	✓	✓
Alana Kearney	102711	✓	✓	✓	✓	✓	✓	✓	✓
Katherine Lang	108450	✓	✓	✓	✓	✓	✓	✓	✓
Johnson Le	137892	✓	✓	✓	✓	✓	✓	✓	✓
Dionis Lybeshari	378785	✓	✓	✓	✓	✓	✓	✓	✓
Danielle Masters	138622	Abs	✓	✓	✓	✓	✓	✓	✓
Jorgo Mihallari <i>George</i>	112852	✓	✓	✓	✓	✓	✓	✓	✓
Emily Mooshian	25422	✓	✓	✓	✓	✓	✓	✓	✓
Marissa Pingeton	106906	✓	✓	✓	✓	✓	✓	✓	✓
Kylie Ross	103223	✓	✓	✓	✓	✓	✓	✓	✓
Kaylee Smith	2551	✓	✓	✓	✓	✓	✓	✓	✓
Annalie Walsh-Costello	120240	Abs	✓	✓	✓	✓	✓	✓	✓

Algebra 2 Quiz on 13.1 3/17/2011

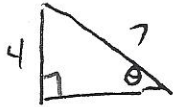
Name _____

	$\sin\theta$	$\cos\theta$	$\tan\theta$	$\csc\theta$	$\sec\theta$	$\cot\theta$
θ	sine θ	cosine θ	tangent θ	cosecant θ	secant θ	cotangent θ
30°						
45°						
60°						

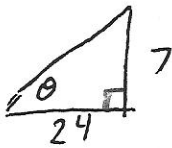
13.1-13.3 Quiz
March 31, 2011

Name _____

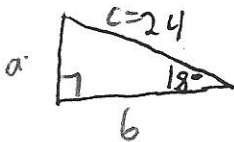
1) Find the six trigonometric functions



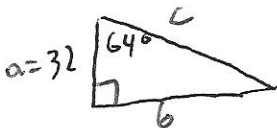
2) Find the six trigonometric functions



3) Solve for ABC (Use a calculator)



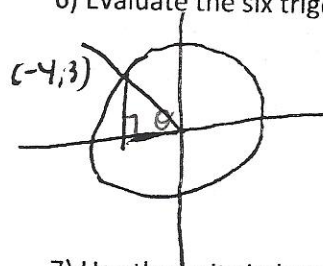
4) Solve for ABC (Use a calculator)



5) Convert -50° to radians

Convert $5\pi/4$ to degrees

6) Evaluate the six trigonometric functions



7) Use the unit circle to evaluate the six trig functions of $\theta=180^\circ$

8) Find the reference angle to 210°

9) Evaluate without using a calculator $\sin(-150^\circ)$

10) Evaluate without using a calculator $\tan(-3\pi/4)$

4/8/11
Do Now
Algebra 2

1.) $y = x^2 + 7x + 12$

$$x = \frac{-b}{2a} \quad x = \boxed{\frac{-7}{2}}$$

$$y = \boxed{\frac{-1}{4}}$$

100

2.) $y = (x+3)(x+3)$

$$x^2 + 3x + 3x + 9$$

$$x^2 + 6x + 9$$

$$x = \boxed{\frac{-6}{2}} \quad y = \boxed{0}$$

-3

Find the vertex

$$y = x^2 + 7x + 12$$

$$y = (x+3)^2$$

www.sciencedirect.com

100

Do Now

$$\boxed{(-3.5, -2.25)}$$

John Cip:

Period 2

04-07-2011

1

$$y = x^2 + 7x + 12$$

$$x = \frac{-7}{2(1)} = \boxed{-3.5}$$

$$y = 12.25 + 24.5 + 12$$

$$y = -2.25$$

2

$$y = (x+3)^2$$

$$x = 0$$

$$y = (0+3)^2$$

$$y = 9$$

$$\boxed{(0, 9)}$$

$$\boxed{(-3, 0)}$$

Julie Arakelian

① $y = x^2 + 7x + 12$

$$x = \frac{-b}{2a} = \frac{-7}{2}$$

$$y = -1/4$$

② $y = (x+3)^2$

$$(x+3)(x+3)$$
$$x^2 + 6x + 9$$

$$x = \frac{-b}{2} = -3$$

$$y = (-3+3)^2 = 0$$

$$(-3, 0)$$

(100)

$$\left(\frac{-7}{2}, -\frac{1}{4} \right)$$

Emily Moshua

(100)

Find the vertex

$$y = x^2 + 7x + 12 \quad \frac{-b}{2a} \quad \frac{-7}{2} = -\frac{7}{2}$$

$$y = (x+3)^2$$

$$(x+3)(x+3)$$

$$x^2 + 3x + 3x + 9$$

$$x^2 + 6x + 9 \quad \frac{-b}{2(1)} = \frac{-6}{2} = -3$$

Find the vertex

$$y = x^2 + 7x + 12$$

$$y = (x+3)^2$$

Some worksheets, as noted, were taken from the text books used in class (McDougal, Algebra I) and (McDougal Algebra II).

Other worksheets were created with the aid of a computer program commonly used at Doherty Memorial High School.

**Worcester Polytechnic Institute
Teacher Certification Program
Practicum Log**

Name: Danielle Payne

Week Of: Jan 17, 2011

Martin Luther King Jr. Day
 Snow Day
 Late Opening
 Snow Day

	Activity	Subject Area	Hours	Signature
Monday			7:20	
Tuesday				R. Razzag
Wednesday	Observation	Algebra 1 Algebra 2 Topics in Alg/Geo	9:20 - 1:45	R. Razzag
Thursday	Observation	Algebra 1 Algebra 2 Topics in Alg/Geo	7:20 - 1:43	R. Razzag
Friday				R. Razzag
Totals		Direct Hours		R. Razzag
		Observation Hours	10:46	R. Razzag

**Worcester Polytechnic Institute
Teacher Certification Program
Practicum Log**

Name: Danielle Payne

Week Of: January 24, 2011

Late
Opening

Snow
Day

	Activity	Subject Area	Hours	Signature
Monday	Observation	Algebra 1	9:20-	<i>Danah Kazzag</i>
		Algebra 2	1:43	<i>Danah Kazzag</i>
		Topics in Alg/Geo		
Tuesday	Observation	Algebra 1	7:20 -	<i>Danah Kazzag</i>
		Algebra 2	1:43	<i>Danah Kazzag</i>
		Topics in Alg/Geo		
Wednesday				
Thursday				
Friday	Observation	Algebra 1	7:20 -	<i>Danah Kazzag</i>
		Algebra 2	1:43	<i>Danah Kazzag</i>
		Topics in Alg/Geo		
Totals		Direct Hours		
		Observation Hours	17:09	

Worcester Polytechnic Institute Teacher Certification Program Practicum Log

Name: Danielle Payne

Week Of: January 31, 2011

	Activity	Subject Area	Hours	Signature
Monday	Observation	Algebra 1 Algebra 2 Topics in Alg/Geo	7:20- 1:43	Renata Razzag
Tuesday				
Wednesday				
Thursday				
Friday	Observation	Algebra 1 Algebra 2 Topics in Alg/Geo	7:20- 1:43	Renata Razzag
Totals		Direct Hours Observation Hours	12:46	

Snow Day

Snow Day

Funeral Day

Worcester Polytechnic Institute Teacher Certification Program Practicum Log

Name: Danielle Payne

Week Of: Feb 7, 2011

	Activity	Subject Area	Hours	Signature
Monday	Observation	Algebra 1 Algebra 2 Topics in Alg/Geo	7:20- 1:43	<i>Reneh Payne</i>
Tuesday	Observation	Algebra 1 Algebra 2 Topics in Alg/Geo	7:20- 1:43	<i>Reneh Payne</i>
Wednesday				
Thursday	Observation	Algebra 1 Algebra 2 Topics in Alg/Geo	7:20- 1:43	<i>Reneh Payne</i>
Friday	Observation	Algebra 1 Algebra 2 Topics in Alg/Geo	7:20- 1:43	<i>Reneh Payne</i>
Totals		Direct Hours		
		Observation Hours	25:32	

6 23
 92
24
25 31

Worcester Polytechnic Institute Teacher Certification Program Practicum Log

Name: Danielle Payne

Week Of: Feb 14, 2011

	Activity	Subject Area	Hours	Signature
Monday	Observation	Algebra 1 Algebra 2 Topics in Alg / Geo	7:20-1:43 1:43	Daniel Razzag
Tuesday	Observation	Algebra 1 Algebra 2 Topics in Alg / Geo	7:20- 1:43	Razzag
Wednesday				
Thursday	Observation	Algebra 1 Algebra 2 Topics in Alg / Geo	7:20 - 1:43	Daniel Razzag
Friday	Observation	Algebra 1 Algebra 2 Topics in Alg / Geo	7:20 - 1:43	Daniel Razzag
Totals		Direct Hours Observation Hours	25:32	

teacher
workshop

**Worcester Polytechnic Institute
Teacher Certification Program
Practicum Log**

Name: Danielle Payne

Week Of: Feb 28, 2011

*Week of Feb
21, 2011 - Doherty
High Feb Break*

	Activity	Subject Area	Hours	Signature
Monday	Teaching	Algebra I	7:20-9:20	<i>R. Razzag</i>
	Prep	Algebra I	4-5	
Tuesday	Teaching	Algebra I	7:20-9:20	<i>R. Razzag</i>
	Prep	Algebra I	4-5	
Wednesday				
Thursday				
Friday				
Totals		Direct Hours	4	<i>R. Razzag</i>
		Observation Hours		

*Teacher conference
Out Sick
Out Sick*

**Worcester Polytechnic Institute
Teacher Certification Program
Practicum Log**

Name: Danielle Payne

Week Of: March 7, 2011

	Activity	Subject Area	Hours	Signature
Monday	Teaching	Algebra 1	7:20 - 8:20	D. Payne
	Prep	Algebra 1	4-5	
Tuesday	Teaching	Algebra 1	7:20 - 8:20	D. Payne
	Prep	Algebra 1	4-5	
Wednesday	Teaching	Algebra 1	7:20 - 2:20	D. Payne
	Prep	Algebra 1	4-5	
Thursday	Teaching	Algebra 1	7:20 - 8:20	D. Payne
	Prep	Algebra 1	4-5	
Friday	Teaching	Algebra 1	7:20 - 8:20	D. Payne
	Prep	Algebra 1	4-5	
	Teaching Prep	Algebra 2 Algebra	8:20 - 10:10 6-8	
Totals		Direct Hours	20	D. Payne
		Observation Hours		

**Worcester Polytechnic Institute
Teacher Certification Program
Practicum Log**

Name: Danielle Payne

Week Of: March 14, 2011

	Activity	Subject Area	Hours	Signature
Monday	Teaching	Algebra 1	7:20-8:20	Renata Razzag
		Algebra 2	8:20-10:20	
	Prep	Algebra 1	4-5	
		Algebra 2	5-7	
Tuesday	Teaching	Algebra 1	7:20-8:20	Renata Razzag
		Algebra 2	8:20-10:20	
	Prep	Algebra 1	4-5	
		Algebra 2	5-7	
	Extra help	Algebra 1+2	10:20-11:20	
Wednesday	Teaching	Algebra 1	7:20-8:20	Renata Razzag
		Algebra 2	8:20-10:20	
	Prep	Algebra 1	4-5	
		Algebra 2	5-7	
Thursday	Extra help	Algebra 1+2	10:20-11:20	Renata Razzag
	Teaching	Algebra 1	7:20-8:20	
		Algebra 2	8:20-10:20	
	Prep	Algebra 1	4-5	
Algebra 2		5-7		
Friday	Teaching	Algebra 1	7:20-8:20	Renata Razzag
		Algebra 2	8:20-10:20	
	Prep	Algebra 1	4-5	
		Algebra 2	5-7	
Totals		Direct Hours	37	Renata Razzag
		Observation Hours		

**Worcester Polytechnic Institute
Teacher Certification Program
Practicum Log**

Name: Danielle Payne

Week Of: March 21, 2011

	Activity	Subject Area	Hours	Signature
Monday	Teaching	Algebra 1	7:20-8:20	Renah Razzag
		Algebra 2	8:20-10:20	
	Prep	Algebra 1	4-5	
		Algebra 2	5-7	
Tuesday	Teaching	Algebra 1	7:20-8:20	RP Renah Razzag
		Algebra 2	8:20-10:20	
	Prep	Algebra 1	4-5	
		Algebra 2	5-7	
	Extra Help	Algebra 1+2	1:20-1:20	RP Renah Razzag
Wednesday	Teaching	Algebra 1	7:20-8:20	Renah Razzag
		Algebra 2	8:20-10:20	
	Prep	Algebra 1	4-5	
		Algebra 2	5-7	
Thursday	Teaching	Algebra 1+2	10:20-2:20	Renah Razzag
		Algebra 1	7:20-8:20	
	Prep	Algebra 2	8:20-10:20	
		Algebra 1	4-5	
Friday	Teaching	Algebra 1	7:20-8:20	Renah Razzag
		Algebra 2	8:20-10:20	
	Prep	Algebra 1	4-5	
		Algebra 2	5-7	
Totals		Direct Hours	37	Renah Razzag
		Observation Hours		

**Worcester Polytechnic Institute
Teacher Certification Program
Practicum Log**

Name: Danielle Payne

Week Of: March 28, 2011

	Activity	Subject Area	Hours	Signature
Monday	Teaching	Algebra 1	7:20-8:20	Renak Razzag
		Algebra 2	8:20-10:20	
	Prep	Algebra 1	4-5	
		Algebra 2	5-7	
Tuesday	Teaching	Algebra 1	7:20-8:20	Renak Razzag
		Algebra 2	8:20-10:20	
	Prep	Algebra 1	4-5	
		Algebra 2	5-7	
	Extra help	Algebra 1+2	10:20-1:20	
Wednesday	Teaching	Algebra 1	7:20-8:20	Renak Razzag
		Algebra 2	8:20-10:20	
	Prep	Algebra 1	4-5	
		Algebra 2	5-7	
	Extra Help	Algebra 1+2	10:20-2:20	
Thursday	Teaching	Algebra 1	7:20-8:20	Renak Razzag
		Algebra 2	8:20-10:20	
	Prep	Algebra 1	4-5	
		Algebra 2	5-7	
Friday	Teaching	Algebra 1	7:20-8:20	Renak Razzag
		Algebra 2	8:20-10:20	
	Prep	Algebra 1	4-5	
		Algebra 2	5-7	
Totals		Direct Hours	37	
		Observation Hours		

**Worcester Polytechnic Institute
Teacher Certification Program
Practicum Log**

Name: Danielle Payne

Week Of: April 4, 2011

	Activity	Subject Area	Hours	Signature
Monday	Teaching	Algebra 1	7:20-8:20	Renata Pazzag
		Algebra 2	8:20-10:20	
	Prep	Algebra 1	4-5	
		Algebra 2	5-7	
Tuesday	Teaching	Algebra 1	7:20-8:20	Renata Pazzag
		Algebra 2	8:20-10:20	
	Prep	Algebra 1	4-5	
		Algebra 2	5-7	
Wednesday	Extra help	Algebra 1+2	10:10-11:10	Renata Pazzag
	Teaching	Algebra 1	7:20-8:20	
		Algebra 2	8:20-10:20	
	Prep	Algebra 1	4-5	
		Algebra 2	5-7	
Thursday	Extra help	Algebra 1+2	10:20-11:20	Renata Pazzag
	Teaching	Algebra 1	7:20-8:20	
		Algebra 2	8:20-10:20	
	Prep	Algebra 1	4-5	
		Algebra 2	5-7	
Friday	Teaching	Algebra 1	7:20-8:20	Renata Pazzag
		Algebra 2	8:20-10:20	
	Prep	Algebra 1	4-5	
		Algebra 2	5-7	
Totals		Direct Hours	37	
		Observation Hours		