



April 15, 2016

To All Algebra 2 Students,

With the implementation of the new Common Core Standards, you are **required** to take the Common Core Algebra 2 Regents Exam, which is scheduled for Wednesday, June 1st. Additionally, you have the option to take the Algebra 2/Trigonometry Regents Exam, which is scheduled for Friday, June 17th. The higher of your two scores will be used to calculate your final average for the spring semester and to determine eligibility for Regents diplomas. In short, it cannot hurt you take both exams.

Your teacher will take some time between the two exams to review material for the 2nd exam that is not in the Common Core Curriculum; however, there are only seven instructional days during this period, and there are **A LOT** of topics to cover. Therefore, if you plan to take the Algebra 2/Trigonometry Regents Exam, you need to do some significant studying outside of the classroom.

In order to help you study for the Algebra 2/Trigonometry Regents Exam, we have prepared some resources, which can be found below:

- Two study guides focusing on topics that are exclusively on the old Regents exam.
 - One is for the McDougal Littell “Algebra 2” textbook
 - One is for the Stewart “Algebra and Trigonometry” textbook
- Links to videos on related topics (these are included on the study guides).
- A DeltaMath assignment that you can access .
- The link to New York State’s webpage containing all past Algebra 2/Trigonometry Regents Exams. (We recommend that you focus on the more recent exams)
- A document detailing which recent Regents Exams have relevant questions to practice.

Good luck and study well!

Sincerely,
The BTHS Math Department

Algebra II/Trigonometry Regents Review Schedule (McDougal-Littell Textbook)

Topic	Textbook Reading Assignment	Textbook Practice Assignment	Video Resources
1. Equations and Inequalities	1.6, 1.7, 4.8, 4.9	1.6: Pg. 45 #28-30, 40-42, 46-48, 49-51, 52,53 1.7: Pg. 55 #30-32, 37-40, 57-59, 81 4.8: Pg. 296 #31-36, 52-54, 56-58, 63, 70 4.9: Pg. 304 #46-48, 55-57, 67, 72	Quadratic Inequalities Sum & Product of Roots
2. Functions	6.3, 6.4, 8.1	6.3: Pg. 432 #6-8, 14-16, 23-25, 30, 35 6.4: Pg. 442 #7-9, 17, 18, 24-26, 30, 31, 36, 47 8.1: Pg. 555 #3-11, 15-27, 21-23, 39	Variation Composing Functions Inverse Functions
3. Counting, Probability, and Statistics	10.1-10.3, 11.5	10.1: Pg. 686 #5, 6, 10, 13, 14, 21, 33, 47, 48, 65 10.2: Pg. 694 #6-8, 13-15, 24, 25, 33, 34, 39 10.3: Pg. 701 #6-9, 13, 14, 17 11.5: Pg. 778 #3-7, 10	Binomial Distribution Regression Regression on TI-83 and TI-84
4. Sequences and Series	Chapter 12	12.1: Pg. 798 #3, 7, 12, 18-21, 27, 37-40, 48-50 12.2: Pg. 806 #3, 5, 15, 18, 25-27, 31, 33, 41, 45 12.3: Pg. 814 #10-12, 19-21, 33-35, 41, 42, 51-53, 58 12.4: Pg. 823 #3, 4, 12-15, 19, 20, 21, 39 12.5: Pg. 830 #8-11, 17-19	Sequences and Series Recursively defined sequences
5. Trigonometric Functions	13.1, 13.2, 13.4-13.6	13.1: Pg. 857 #21-28 13.2: Pg. 863 #32-37 13.4: Pg. 878 #7-9, 17-19, 23-25, 27-29 13.5: Pg. 886 #7-9, 13-15, 28, 43 13.6: Pg. 892 #3-7, 9, 17-19, 21-23, 43	Law of Sines Law of Cosines Area of Triangle $K = .5absin(C)$ Converting from Degree Minutes & Seconds Converting to Degrees Minutes & Seconds Converting to Degrees Minutes & Seconds II
6. Trigonometric Identities	14.3, 14.4, 14.7	14.3: Pg. 928 #15-19, 25-29, 35 14.4: Pg. 935 #3-7, 12-15, 19-21,36 14.7: Pg. 959 #3-11, 13-15, 17-19, 21-23, 33-35	Trig identities and Equations More Trig Equations and Identities More Trig Identities and Equations AGAIN! Even More Trig Identities and Equations!

Algebra II/Trigonometry Regents Review Schedule (Stewart Textbook)

Topic	Textbook Reading Assignment	Textbook Practice Assignment	Video Resources
1. Equations and Inequalities	3.6, 3.7, 3.8	3.6: Pg. 185 #22-28, 37, 39, 43, 47 3.7: Pg. 194 #1-12 3.8: Pg. 199 #8-13, 26-33	Quadratic Inequalities Sum & Product of Roots
2. Functions	4.1, 4.3, 4.7, 4.8	4.1: Pg. 217 #23-26, 41-45, 57, 59 4.3: Pg. 235 #5, 6, 11, 17, 21, 27, 29 4.7: Pg. 275 #8, 17-21, 23-27, 29-31 4.8: Pg. 287 #1-4, 8-12, 17, 25-27, 34-37, 52, 53, 65	Variation Composing Functions Inverse Functions
3. Counting, Probability, and Statistics	12.6, 13.1, 13.2, 13.3	12.6: Pg. 866 #21-23, 27-31 13.1: Pg. 879 #5, 11, 21, 27, 29, 31, 35, 37, 39 13.2: Pg. 888 #11, 13, 15, 17, 19, 23, 25, 27, 29, 31, 43, 45, 47, 49, 51, 53, 55, 57, 59, 61 13.3: Pg. 899 #7, 9, 11, 15, 19, 21, 23, 29	Binomial Distribution Regression Regression on TI-83 and TI-84
4. Sequences and Series	12.1, 12.2, 12.3	12.1: Pg. 825 #7, 13, 15, 17, 21, 25, 27, 29, 31, 35, 37, 39, 43, 45, 47, 49, 51, 53 12.2: Pg. 831 #5, 11, 13, 15, 17, 19, 21, 25, 27, 29, 31, 33, 37, 39 12.3: Pg. 839 #3, 9, 15, 17, 19, 21, 23, 25, 27, 29, 33, 39, 41	Sequences and Series Recursively defined sequences
5. Trigonometric Functions	7.1-7.5, 8.4, 9.4	7.1: Pg. 453 #43-47, 53, 58-63 7.2: Pg. 462 #7-11, 27-29, 33, 37, 39 7.3: Pg. 474 #50-54 7.4: Pg. 483 #1, 3, 7, 11, 13, 15, 17, 19, 23, 25, 27, 31 7.5: Pg. 491 #7, 9, 13, 21, 23, 25, 29, 31, 33, 35, 39 8.4: Pg. 549 #3, 5, 7, 9, 11, 13, 15, 17 9.4: Pg. 599 #3-7, 13-19, 29-33, 47	Law of Sines Law of Cosines Area of Triangle $K = .5absin(C)$ Converting from Degree Minutes & Seconds Converting to Degrees Minutes & Seconds Converting to Degrees Minutes & Seconds II
6. Trigonometric Identities	9.2, 9.3, 9.5	9.2: Pg. 580 #3-5, 7-9, 11-14, 16-21 9.3: Pg. 589 #3-5, 15-17, 21-23, 27-29, 47-52 9.5: Pg. 609 #31-38	Trig identities and Equations More Trig Equations and Identities More Trig Identities and Equations AGAIN! Even More Trig Identities and Equations!

Algebra II/Trigonometry Regents Review Checklist

The following are topics included in the old curriculum that are not taught in the new curriculum (or to the same extent). Some may have been covered in Algebra I or Geometry but should be reinforced again prior to taking the Algebra 2/Trigonometry Regents exam.

Functions

1. linear inequalities
2. non-linear inequalities (quadratic & absolute value)
3. sum & product of quadratic roots
4. absolute value equations
5. inverse variation
6. functions (inc. domain and range)
7. onto & one-to-one functions
8. composition of functions
9. inverse functions

Trigonometry

10. length of an arc, area of a sector
11. radians, degrees, minutes, seconds
12. area of triangle: $K = \frac{1}{2}ab\sin\theta$
13. Law of Sines
14. Law of Cosines
15. tangent, cotangent, secant, cosecant
16. inverse trig functions
17. Angle Sum and Difference Identities (inc. cofunction identities)
18. more complex trig identities
19. Double Angle & Half Angle Identities
20. Solving Trig Equations

Probability and Statistics

21. sequences and series (inc. sigma notation, arithmetic, geometric, partial sums, and recursive formulas)
22. binomial theorem/expansion
23. counting principles
24. permutations, combinations, and arrangements
25. basic probability
26. binomial probability
27. linear regression (inc. correlation coefficient) & non-linear regression

Virtually all of the above topics have been covered by the following recent Algebra II/Trigonometry Regents exams: June 2014, June 2015, Aug. 2015, and Jan. 2016. Exams and scoring guides can be found on the New York State Department of Education Regents website: <http://www.nysedregents.org/a2trig/home.html>

Here are the topics for the specific problems relating to the old curriculum:

June 2014

Part I #	Topic	Part II-IV #	Topic
3	area of triangle	29	exponential regression
9	functions	30	absolute value inequality
10	trig identities	31	Radians/degrees
11	arithmetic sequences	34	trig equation (with $\sec \theta$)
14	product of quadratic roots	38	probability
18	range of graph	39	Law of Cosines with forces
19	composition of functions		
20	sigma notation		
21	trig identity (angle difference)		
22	counting, combinations		
25	arrangements		
27	inverse functions		

June 2015

Part I #	Topic	Part II-IV #	Topic
1	one-to-one function	28	exponential equation
3	composition of functions	29	Law of Sines (ambiguous case)
7	quadratic inequality	30	binomial probability
8	area of a triangle	34	sum & product of quadratic roots
10	inverse variation	35	correlation coefficient
11	arrangements	36	Law of Cosines
12	sequence	39	trig equation (with $\sec \theta$)
13	absolute value equation		
14	$\tan \theta$ to solve for height		
18	domain, range		
20	sequence, partial sum		
21	inverse functions		
22	Double angle identity		
23	combinations, permutations		
26	sigma notation		

Aug 2015

Part I #	Topic	Part II-IV #	Topic
2	correlation coefficient	28	degrees, minutes, seconds
5	$\csc \theta$	30	composition of functions
6	sum & product of quadratic roots	31	binomial probability
7	inverse variation	32	arc length
8	inverse trig function, composition of functions	33	$\sec \theta$ identity
10	arithmetic sequences	35	sigma notation
12	arrangements	36	Law of Cosines
13	combinations	38	absolute value inequality
14	Trig quadratic equation		
17	exponential function domain		
20	sequences		
22	Double angle identity		
23	inverse function		
25	binomial expansion		
26	combinations		

Jan 2016

Part I #	Topic	Part II-IV #	Topic
4	functions	31	word arrangement, combination
5	binomial theorem	33	area of a triangle
10	arithmetic sequence	34	trig identity, $\csc \theta$, $\cot \theta$
11	arc length	35	correlation coefficient
12	absolute value inequality	36	Law of Cosines
13	sum of quadratic roots	39	trig equation (with $\sec \theta$)
16	correlation coefficient		
17	sigma notation, trig function		
21	$\sec \theta$		
22	inverse of $\tan \theta$		
23	recursive sequence		
25	cofunction trig identity, subtraction		