OnRamps Precalculus

19-20 1st Semester

DATE	Unit	Homework	SUPPORT VIDEOS (***not full lessons)
M/Tu Aug 19/20	Welcome! Register. Day 1 Exploration 0.1.3 Making Connections Unit 1 Functions, Rates, and Patterns Ex 1.1.1 What is a Function Ex 1.1.2 Function Identification	**Hwk 1.1.2** #2-34 even click here for hwk	Regarding HWK - your hwk paper should be used as the Unit TEST review sheet - Each homework assignment should "stand alone" a) Copy the directions b) Copy the problem c) Add a little note next to anything tricky (might want to highlight these)
We/Tr Aug 21/22	Day 2 Ex 1.1.4 Function Identification Ex 1.2.1 Function Foundations (Domain & Range) Register for On Ramps	Hwk **1.2.1** odds, & #10,16,18 click here	**Register for your UT OnRamps Precal Course! Your teacher can NOT do this for you.** Domain and Range from Algebra 2 Of a rational function: https://www.youtube.com/watch?v=MS_vs4IsGN Of a square root function: https://www.youtube.com/watch?v=XCKemxoS-T0 advanced:https://www.youtube.com/watch?v=hZEGZMb4uzQ&t=16s
Fri/Mon Aug 23/26	Day 3 Ex 1.2.2 Fn Increase & Decrease Ex 1.2.3 Types of Functions (Injective, Surjective, Bijective) Even/Odd fn	Hwk **1.2.2 odds** (this hwk is only 1 page long) click here **Hwk 1.2.3** odds & all last page chart (all) click here answer key	Increasing/Decreasing functions: https://www.youtube.com/watch?v=c5f1M8uIDdM Surjective & injective functions https://www.youtube.com/watch?v=xKNX8BUWR0g Injective, surjective & bijective https://www.youtube.com/watch?v=XdopYkzSR74 Injective, Surjective, Bijective online notes and practice (not a video) http://www.mathsisfun.com/sets/injective-surjective-bijective. Even and odd functions https://www.youtube.com/watch?v=8VgmBe3ulb8 https://www.youtube.com/watch?v=XkwxVBtMAtg https://www.youtube.com/watch?v=mYEnT7hrCx0
Tue/Wed Aug 27/28	Ex 1.2.4 Composite Functions Ex 1.2.4 Extension - decomposition of fn	Hwk **1.2.4 1-39odd** click here	Composition of functions https://www.youtube.com/watch?v=lwrwFBNZSiY https://www.youtube.com/watch?v=S4AEZElTPDo Compositions frm a graph https://www.youtube.com/watch?v=b-i7N0hE-Ys Decomposing functions: https://www.youtube.com/watch?v=rxDb2T_RWP4
Thr/Fri Aug 29/30	**Quiz 1.1-1.2 8/28** **Open for corrections Sat** ***Graphing Conic Sections***	**Do NOT follow textbook directions, just GRAPH the conic on graph paper carefully.** Parabolas pg 428 #15-23 all Circle P438 #24, 28 Ellipse pg 438 #3, 4, 5, 25; Hyperbola pg 449 # 15, 18, 19, 21	Graph Ellipse part 1: https://www.youtube.com/watch?v=5nxT6LQhXLM Graph Ellipse part 2: https://www.youtube.com/watch?v=BnLlKv6-DbA&t=712s Graph Parabola: https://www.youtube.com/watch?v=g4AX8a5RYzY&t=342s Graph Hyperbola: https://www.youtube.com/watch?v=g4AX8a5RYzY&t=342s

Tue/Wed Sept 3/4	Day 4 Ex 1.2.5 Composite Fn - A Cautionary Tale Ex 1.2.6 Inverse of a Function in class on notebook paper. (for a writing grade) Ex 1.2.7 Inverse of a Function & Domain & Range	Hwk **1.2.6-7** ALL click here **Exploration 1.2.6 will be turned in for a grade next class**	Inverse Function & Domain and Range https://www.youtube.com/watch?v=Q7VHXylSZOA
Thr/Fri Sept 5/6	**Quiz 1.3-1.5** **Opened for corrections Sept 7** Day 5 Ex 1.3.1 Graphs of Distance and Time Ex 1.3.2 Bottles, Rates, and Graphs Practice Graphing the filling of bottles: https://teacher.desmos.com/waterline/walkthrough#Tumbler	Hwk 1.3.1 all click here Hwk 1.3.2 all click here Answers *Are you making your homework into review sheets?*	Distance Time Graphs: https://www.youtube.com/watch?v=nETZtOP1VaQ
Mon/Tue Sept 9/10	Day 6 Ex 1.4.1 What is a Sequence Ex 1.4.2 Triangular Differences Involving Sequences Ex 1.5.1 Finding Function Patterns	Hwk **1.5.1** all click here Answers	Arithmetic & Geometric Sequences https://www.youtube.com/watch?v=TFWGV_84uEk Second Differences: https://www.youtube.com/watch?v=JkReUgmc17Y Patterns from tables: https://www.youtube.com/watch?v=6kaTDzuaxWo
Wed/Thrs Sept 11/12	Day 7 Ex 1.5.2 Pattern Verification Graphing Greatest integer functions Intro to 1.5.3 Piecewise Fn	Greatest integer wks - all click here Hwk **1.5.3** 1-21 odd click here Even answers	Greatest integer functions https://www.youtube.com/watch?v=UQ3a2QH_-GU
Fri/Mon Sept 13/16	Day 8 Ex 1.5.3 Piecewise Functions		
Tue/Wed Sept 17,18	**Unit 2 Algebra & Geometry** **Day 1 ***NOT on the test** **Lesson 2.1 Algebra and Geometry** Ex 2.1.1 Algebra and Geometry Meet Derrive the trans. (Transformations - squiggles)*** Begin hwk in class - 3-96(x3)	HW 2.1.1 Alg & Geom Meet Transformations 3-96 (x3) they are fast problems answers	
Thr/Fri Sept 19/20 Review Mon/Tue 23/24	**Unit 1 Test for High School & UT Course** **- No calculator permitted on 1 test - no redo**	**DO the UT Unit 1 Exploration Check.**	**UT EXPLORATION check - You get one shot at submitting this check to UT. It is done outside of class time. We suggest that you make arrangements to attend a DEN where there may be others working on it as well. Once you SUBMIT, that will be your grade.**
Wed/Thr Sept 25, 26	**Lesson 2.2 Complex Geometry & Roots** **Day 2** **Quiz 2.1** Intro review of Complex numbers & Ex 2.2.1 Complex Roots Visualization (graphing "i"). Start HW 2.2.1 complex Roots viz in class	HW2 .2.1 Complex Roots Visualization - all Answer Key Complex No Review 1-27 odds Click here	Complex numbers: https://www.youtube.com/watch?v=T647CGsuOVU https://www.youtube.com/watch?v=kpywdu1afas https://www.youtube.com/watch?v=bPqB9a1uk_800kM https://www.youtube.com/watch?v=PBsRszN6Y_s

Fri/Mon Sept 27/30	**** This is a "NEW" day where we add in solving quadratics by factoring, quadratic formula, and completing the square. - THIS is a NEW homework worksheet** Day 3 Solving Quadratic Equations by Factoring, completing the square, & the quadratic formula Ex 2.2.2 Quadratic Formula	Solve Quad Eq 1-37 odd *You should use all 3 methods at least 4 times each:*	Quadratic formula: https://www.youtube.com/watch?v=DdUx_7B Solve by completing the square https://www.youtube.com/watch?v=xMIIBfrrxHs
Tue/Wed Oct 1/2	**Lesson 2.3 Conic Sections** Day 4: (Conics Day 1) **Quiz 2.2** Ex 2.3.1 The Conics - Day 1: Parabola and intro Ellipse (be sure to memorize the conic section definitions) *** start hwk in class and work them in reverse order for each assignment	Hwk 2.3.1 Parabolas #1 4,12, 14-21 all Answer Keys Parabolas	Complete the square to write the eq for a parabola https://www.youtube.com/watch?v=WYi14-cTwcY https://www.youtube.com/watch?v=Q7Sc7IX4TEk Check out the conic section explorer: https://illuminations.nctm.org/Activity.aspx?id=3506
Thr/Tue Oct 3/ 8 **4th Fair Day** **7th PD**	Day 5 Ex 2.3.1 The Conics -Day 2 - Ellipse & Circle Ex 2.3.1 Intro to Hyperbola	Hwk 2.3.1 Ellipse 1, 3, 9-19 odd, 21-24 Circles 3-11 odd Answer Keys: Ellipses Circles	Complete the square to write eq for circle: https://www.youtube.com/watch?v=3Ixp3PeAErI Ellipse: https://www.youtube.com/watch?v=BnLlKv6-DbA
Tues/Wed Oct 8/9	Day 6 Ex 2.31 The Conics - Hyperbolas	Hyperbola Hwk 2.3. #5, 7, 11, 12, 13, 15, 17, 18, 32 Answer Key	Hyperbola: https://www.youtube.com/watch?v=EheMRw75P4c
Th/Fri Oct 10/11	Day 7 Ex 2.3.2 The Conics - FOR A GRADE Identifying Parameters #7, #8, #9, **Use your BEST algebra with supported writing. Due at END of class.**	WK - Ex 2.3.2 #r 1 through 6all	
Mon/Tue Oct 14/15	Day 8 **Quiz 2.3** 2.4.0 Operations with Matrices (add, subtract, multiply) from Algebra 2. Ex 2.4.1 Find the Inverse of a Matrix using Gausian elimination and using the Inverse to Solve 3-variable systems of equations.	Hwk 2.4.0 CPHS #1, 4, 6 Matrix Operati ons and KEY Hwk 2.4.1 Find the inverse & solve Solutions Extra practice HW 2.4.1 Solve Systems CPHS	**add/subtract & scalar multiplier with matrices:** ttps://www.youtube.com/watch?v=w33-HtY0s5M **Multiplying Matrices** https://www.youtube.com/watch?v=0mOWqK9OJtU One more https://www.youtube.com/watch?v=YtMYfvypgM4 Another example! https://www.youtube.com/watch?v=kuixY2bCc_0 **Find the Inverse Matrix - Gauss-Jordan**

			https://www.youtube.com/watch?v=G1_8E4oEVII https://www.youtube.com/watch?v=GYFw1jWGQIE **Solve 3-variable system using Gausian elimination:** https://www.youtube.com/watch?v=CsTOUbeMPUo https://www.youtube.com/watch?v=2j5Ic2V7wq4 https://www.youtube.com/watch?v=Dj84vEb4Zko
Wed/Thr Oct 16/17	Day 9 Ex 2.4.2 Use Matrices to Model Functions & Relations	HWK 2.4.2 Do #1-5 convert to standard form and sketch a graph	Modeling Conics with Matrices https://www.youtube.com/watch?v=h1e-i_tdEj8 Example of taking 3 points and creating a system of equations for a **circle** (stop after that point and do the rest using matrices) https://www.youtube.com/watch?v=rKBqQdaUTig Take 3 points and find the equation of a **parabola** using matrices: https://www.youtube.com/watch?v=BZVh3rhy5YE
Fri/Mon Oct 18/21	Day 10 **Quz 2.4** Linear Regression-Thunderstorms (10 min) Calculator Instructions Read pages 64-66 (10 min) Ex 2.5.3 (p67)An Application Activity Using Residuals (20 min) Ex 2.5.4 A Planets Exploration - Using "Real" Data	Hwk 2.5.1 do: **2, 4, 7-13 all** Answer Key Hwk 2.5.4 day 1 #1 & 2	Linear regressions on the calculator https://www.youtube.com/watch?v=LVnHpmbv7Yg https://www.youtube.com/watch?v=h1e-i_tdEj8 Determining best regression: https://www.youtube.com/watch?v=SoeERDFeE_I
Tru/Mon Oct 24/28	**Test Review**		=
Tue/Wed Oct 29/30	**Unit 2 Test for High School & UT Course**	**DO the UT Unit 2 Exploration Check.**	**UT EXPLORATION check - You get one shot at submitting this check to UT. It is done outside of class time. We suggest that you make arrangements to attend a DEN where there may be others working on it as well.**
Thr/Fri Oct 31/Nov1	**Unit 3 Exponential & Logarithmic Functions** Day 1 Log flash cards Exercise 3.0 for practice Ex 3.0.1 Exp and Log Properties (Expanding and condensing Logs)	Hwk 3.0 Alg 2 level exp & logs CPHS The document tells you what problems to do.	An Intro to Logs https://www.youtube.com/watch?v=EvQCLCaiq2U Properties of Logs - expand and condense https://www.youtube.com/watch?v=LwNpOWg78h4 https://www.youtube.com/watch?v=n4duiJyCLEM
Mon/Tue Nov 4/5	**Day 2** **Quiz 3** **Lesson 3.1 A Special Number** Ex 3.1.1 A number Between 2 and 3 Due at the end of class for a writing grade This day is NEW and allows for 1 more night of basic log practice before we move on	Hwk 3.0.1 EVENS Simplify Exp and logs 2-42 Hwk 3.0.2 EVENS Expand and Condense Logs	

Wed/Thr 11/6-9	Day 3 Solving Exponential and Logarithmic Equations *** this is a NEW added day for us on just solving Choose a few evens to ask the class to work on together.	3.0 Solve the Exp or Log Equation - ODDS Solutions 3.0	
Fri/Tue 11/8-12 11th Holliday	Day 4 Ex 3.1.2 More on that Special Number Ex 3.2.1 Logarithms in Carbon Dating Ex 3.3.1 An Investigation of Growth and Decay Models	Hwk 3.1.2 Compound Interest 2-10 even Hwk 3.2.1 Solve e equations and Half Life 3-15(x3) and 1-5 all Solutions 3.2.1	
Wed/Thr 11/13-14	Day 5 Ex 3.3.2 The Logistic Growth Mode **Quiz 3.1-3.2**	Hwk 3.3.1 Gr and Dec 1-21 odds	
Fri/Mon Nov 15/18	Day 6 lEx 3.4.1 An Application of Functions Patterns **Quiz 3.3-3.4**	Hwk 3.3.2 Logistic Growth Model 1-4all 3.4.1 App of Fn Patterns 1-4all	
Wed Review Nov 21/22	**Test 3 for High School & UT Course**		
Dec 2-5	**Semester Review** **UT Mid Term Exam**		Your score on this exam "can" replace your lowest test score for units 1, 2, and 3
Fri Dec 6/9	**CPHS - Trig from Geometry** HW 4.0 Simple Triangle Trig (soh cah toa) do #1, 4, 7, 8, 10, 13, 16, 19, 21, 23, 24 4.0 Kuta Special Rt. Triangles do 3-15 (x3)		
Tues/Wed Dec 10/11	**Unit 4 Trigonometry** **Quiz 4.0** **Lesson 4.2 Trigonometric Foundations** Activity: Creating the Unit Circle coordinates activity **Radians - Degrees & Coterminal Angles**	HW 4.2.0 Anges Do # 1-18(x3)	What on earth is a radian? https://www.youtube.com/watch?v=HACNCy0clO0 Intro to the Unit Circle - Song https://www.youtube.com/watch?v=QlQhROtEXXE The left hand trick: https://www.youtube.com/watch?v=LE6dmczMc68
Thu/Fri Dec 16-17	4.2.0 General angle work **Quiz 4.1** FIll out yellow cardstock unit circle Pg 85 -86 Introduce sec., csc., and cot. Pg 88-90 Evaluating angles on the unit circle		https://www.youtube.com/watch?v=OjHgoZOdRKM
Mon/Tue Dec 18-19	CPHS lesson - More practice with the unit circle Radian & degree measure Trig functions of any angle Using a reference angle		
Fri Dec 20	**Lesson 4.1 Working with Identities (day 2)** Exploration 4.1.2 More Trig Identities NOTES CPHS - other pyth id, even/odd id	**4.1.2 Simplify Trig Expressions - more practice** #1, 2, 3, 6, 8, 11, 12, 14, 16, 18, 21, 23, 24, 26, 28, 30, 32, 36, 37	
Hwk	**CPHS Verify sheet 1-25 odd**	**HW Verify Wks CPHS** **1-25 odd**	