|  | **TRACK #1 (logs,exps)** | **TRACK #2 (algebra)** | **TRACK #3 (Functions)** | **TRACK #4 (Trigonometry)** |
| --- | --- | --- | --- | --- |
| 5/31 | Preliminaries* HW notebook
* Notebook format
* Pen
* How to study
* Grading policy
* Cheating, etc

**X quiz****Inventory test (takehome)** | Algebra# systems **N,W,Z,Q,R,C**set symbols* “element-of”
* “subset-of”

Field properties | Linear functionsLine:* polynomial form
* slope-intercept form
* point-slope form
* convert PS🡪SI
* graph from PS
* graph from poly form
 | * Distance formula
* Definition of circle
* Circle equation
 |
| 6/2 | laws of exponentsxmxn=xm+n(xm) n = xmn(xy) n = xn ynx1 = xx0 = 1 (UNLESS x=0) | Order propertiesOrder of operationsPolynomials* What is a polynomial?
* Degree
* The polynomial number systems Z[X], Q[X],R[X]
* Irreducible polynomials

[see: https://en.wikipedia.org/wiki/Irreducible\_polynomialFactoring natural numbersFactoring polynomials. |   | * Shifted equation of a circle
* Convert circle to vertex form
* Graph a circle
 |
| 6/7 | Exponential function def.* F(x) = Abx .
* Graph exponential function.
* Given 2 points, find the formula of an exponential function; then graph it
 | **Quiz 302A: Factoring natural #s**An un-ordered Field: Z/(3).Order propertiesTrichotomyIf a<b then a+c<b+cIf a<b then a-c<b-cIf a<b and c>0, then ac < bcIf a<b and c<0, then ac > bc |  | Announce quiz (next time) on completing the square for a circle.The Unit Circle.Unit Circle homework.Definition of sin(x) and cos(x).sin2(x) + cos2(x) = 1assignment: Unit Circlepassed out “graph cos(x)” |
| 6/9 | **Quiz: graph exponential function** | Review: point-slope form of a line.**Quiz 302: Field properties**Solving inequalitiesAbsolute valueSolving absolute value inequalities**Quiz 2.08: Complete the square for a circle; find center and radius. Write the equation for a circle with given center and radius.** | * Functions
* What is a relation
* What is a function
 | sin() and cos() of special angles.Define the six trig functions.Trig functions of special angles.Discuss “graphing cosine”, 2 HWs. |
| 6/14 | See HW# 29,30,31,32More properties of exponentialsSolving exponential equations by brute forceSolving exponential equations by logarithms | Review factoring.The factor theorem.The rational root theorem. | Methods of defining a function* Domain and Range
* Domain Specified
* Domain Unspecified

Algebra of functionsFunction compositionFunction inverseVerbal string method | **Practice: trig functions of special angles.**Reciprocal relationsPythagorean relations.Complementary relationsFormula: cos(A+B) = cosAcosB-sinAsinB |
| 6/16 | LogarithmsDefinition of logarithmExp. Form 🡨🡪 log. FormProperties of logarithmsLogs by inspection | **Q1.7:Factoring**Graphing quadratic equationsQuadratic function skills sheet | Polynomials of degree >2Graphing polynomials of degree >2 | Proof of the cos(A+B) formula.Graphing sinusoidal functionsEquations of sinusoidal functions from their graphs**Quiz 89.1: Cos(A+B)** |
| 6/21 | **Q78:simple exp/log props****Quiz:graph exponentials**Change of base for logsGraphing logarithmic functions | * The vertex form of the quadratic function.
* Complete the square for a quadratic function
 |  | **Quiz210: Trig fns of special angles.**Law of cosinesProof of law of cosinesSolving a (general) triangle |
| 6/23 | * Graphing logarithmic functions, again
* Solving logarithmic equations
 | **Q6.1:Graph quadratic eqs*** Solving radical equations
* Solving rational equations
 | * Even & Odd functions
* fx) and f(-x) and –f(x)
* Shifting functions

DQ” = difference quotient. | Law of sines (proof, use)Proof of law of cosinesArea of a (general) triangle (& proof)Solving trigonometric equations |
| 6/28 | **Quiz: graph easy log eq.**Review for big quiz on logs and exponentials | Complex numbers | * “DQ”, again
* Algebraic method to find function inverse.
 | **Q951:Solving a (general) triangle** Trigonometric identities |
| 6/30 | **Quiz: logs & exponentials** |  | **Quiz: DQ** | Inverse trig. functions |
| 7/5 |  |  | Rational functionsGraphing rational functions | **Comprensive quiz: Trigonometry** |
| 7/7 |  |  |  |  |
| 7/12 | Course evaluation |  |  |  |
| 7/14 | FINAL EXAM | FINAL EXAM | FINAL EXAM | FINAL EXAM |