|  | **TRACK #1 (logs,exps)** | **TRACK #2 (algebra)** | **TRACK #3 (Functions)** | **TRACK #4 (Trigonometry)** |
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| 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 functions  Line:   * 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 exponents  xmxn=xm+n  (xm) n = xmn  (xy) n = xn yn  x1 = x  x0 = 1 (UNLESS x=0) | Order properties  Order of operations  Polynomials   * What is a polynomial? * Degree * The polynomial number systems Z[X], Q[X],R[X] * Irreducible polynomials   [see: https://en.wikipedia.org/wiki/Irreducible\_polynomial  Factoring natural numbers  Factoring 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 properties  Trichotomy  If a<b then a+c<b+c  If a<b then a-c<b-c  If a<b and c>0, then ac < bc  If 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) = 1  assignment: Unit Circle  passed out “graph cos(x)” |
| 6/9 | **Quiz: graph exponential function** | Review: point-slope form of a line.  **Quiz 302: Field properties**  Solving inequalities  Absolute value  Solving 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# 29,30,31,32  More properties of exponentials  Solving exponential equations by brute force  Solving 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 functions  Function composition  Function inverse  Verbal string method | **Practice: trig functions of special angles.**  Reciprocal relations  Pythagorean relations.  Complementary relations  Formula: cos(A+B) = cosAcosB-sinAsinB |
| 6/16 | Logarithms  Definition of logarithm  Exp. Form 🡨🡪 log. Form  Properties of logarithms  Logs by inspection | **Q1.7:Factoring**  Graphing quadratic equations  Quadratic function skills sheet | Polynomials of degree >2  Graphing polynomials of degree >2 | Proof of the cos(A+B) formula.  Graphing sinusoidal functions  Equations 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 logs  Graphing logarithmic functions | * The vertex form of the quadratic function. * Complete the square for a quadratic function |  | **Quiz210: Trig fns of special angles.**  Law of cosines  Proof of law of cosines  Solving 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 cosines  Area 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 functions  Graphing rational functions | **Comprensive quiz: Trigonometry** |
| 7/7 |  |  |  |  |
| 7/12 | Course evaluation |  |  |  |
| 7/14 | FINAL EXAM | FINAL EXAM | FINAL EXAM | FINAL EXAM |