-=[' 1) Midterm reflection:
- Partial credit issue
- Saving time by knowing things not figuring them out
(Be sure & fast)
- Focus on summative/cumulative skills

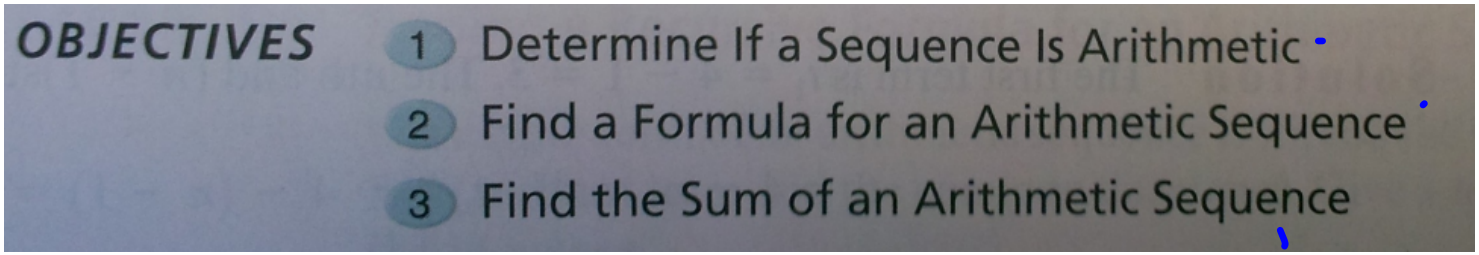
During the year testing has
given credit for underlying skills
given time which
allowed you to figure things out and check

Skills used repeatedly year which merit near memorization:
- Transformation
- Basic trig/unit circle/pythagorean theorem
- Division of polynomials (long or synthetic)
- Finding zeros of quadratics with our without your calculator
(if you would have a problem not having a calculator with quadratic formula available, fix your skills).

2) Triage studying:

- GO BACK AND REVIEW THE ITEMS THAT YOU GOT WRONG ON THE CHAPTER EXAMS
- WHAT IS THE CUMULATIVE PROBLEM THAT PUTS TOGETHER ALL THE SKILLS OF THIS SECTION? (review each chapter backwards)

Not "Can I do a jillion skills?" but "Can I do the problems that capture all the skills?"



Posted HW doc

EXAMPLES OF "CUMULATIVE PROBLEM" THINKING

- NOT A TOPIC LIST OR A STUDY GUIDE
º an EXAMPLE of a set meaningful challenges like you should create
- not created by looking at the final
º created by looking at the last skills in the chapters

I did not re-review - there maybe omission

Can you graph and use graphs in every mode in the calculator: Func, Par, Pol, Seq

11: Can you find the sums of arithmetic and geometric sequence/series?
Can you fully identify any term in a geometric series, arithmetic series, or an expanded polynomial?

10: Can you fully decompose a rational function?
3: Can you fully analyze all the features of a rational functions working from an equation, an inequality, or a graph?
Can you find all the zeros on any polynomial with or without your calculator?

9: Can you find the three coordinates (t,x,y) of key points in a parametric function?

4: Can you analyze the graphs of exponential and logarithmic functions?
Given all the variables but one, can you solve for any missing parameter from a exponential and logarithmic problems?
(Note: Growth, decay, and logarithmic functions are variations of exponential and logarithmic functions)

8: Can you move freely amongst from polar, complex, and rectangular forms?
Can you raise complex numbers to powers?
Can you solve static equilibrium problems?
Can you decompose a vector into orthogonal vectors?

7: Can you fully analyze non-right triangles using trig formulas?
6: Can you solve and graphically analyze trig functions and their inverses?
Can you use trig and relationships to find angles from other angles?
Can you fully solve trigonometric equations?

5: Can you fully analyze sinusoidal functions?
(The rest of 5,2,1 are skills that you have to have to do the later chapters).

Note: No binomial theorem.

Precalculus 41
Final Exam Formulas

$s = r\theta$

$\tan^2\theta + 1 = \sec^2\theta$

$1 + \cot^2\theta = \csc^2\theta$

$y = \sin^{-1} x, \quad -\frac{\pi}{2} \le y \le \frac{\pi}{2}$

$y = \cos^{-1} x, \quad 0 \le y \le \pi$

$y = \tan^{-1} x, \quad -\frac{\pi}{2} \le y \le \frac{\pi}{2}$

$\cos(\alpha+\beta) = \cos\alpha\cos\beta - \sin\alpha\sin\beta$

$\cos(\alpha-\beta) = \cos\alpha\cos\beta + \sin\alpha\sin\beta$

$\sin(\alpha+\beta) = \sin\alpha\cos\beta + \cos\alpha\sin\beta$

$\sin(\alpha-\beta) = \sin\alpha\cos\beta - \cos\alpha\sin\beta$

$\tan(\alpha+\beta) = \frac{\tan\alpha + \tan\beta}{1 - \tan\alpha\tan\beta}$

$\tan(\alpha-\beta) = \frac{\tan\alpha - \tan\beta}{1 + \tan\alpha\tan\beta}$

$\cos(2\theta) = \cos^2\theta - \sin^2\theta$

$\cos(2\theta) = 2\cos^2\theta - 1$

$\cos(2\theta) = 1 - 2\sin^2\theta$

$\sin(2\theta) = 2\sin\theta\cos\theta$

$\tan(2\theta) = \frac{2\tan\theta}{1 - \tan^2\theta}$

Law of Sines: $\frac{\sin\alpha}{a} = \frac{\sin\beta}{b} = \frac{\sin\gamma}{c}$

Law of Cosines: $c^2 = a^2 + b^2 - 2ab\cos\gamma$

$A = \frac{1}{2}ab\sin\gamma$

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

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

$\cos\theta = \frac{\vec{u} \bullet \vec{v}}{\|\vec{u}\|\|\vec{v}\|}$

$A = P(1 + \frac{r}{n})^{nt}$

$A = Pe^{rt}$

Projectile Motion:

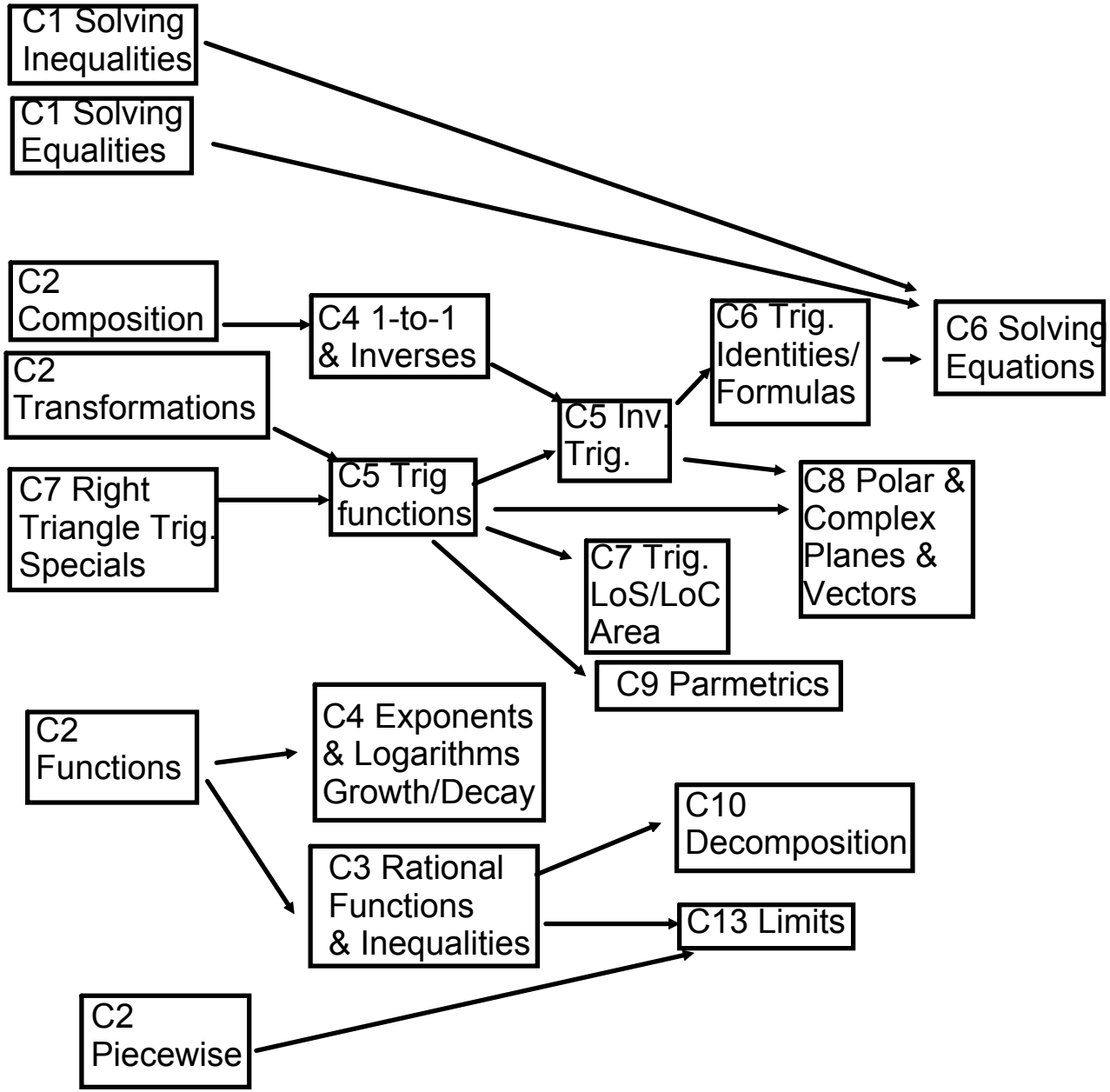
$x(t) = (v_0\cos\theta)t$

$y(t) = -\frac{1}{2}gt^2 + (v_0\sin\theta)t + h$

where:

$g = 32\,ft/\text{sec}/\text{sec}$

$g = 9.8m/\text{sec}/\text{sec}$


C1 Solving Inequalities
C1 Solving Equalities
C2 Composition
C4 1-to-1 & Inverses
C6 Trig. Identities/ Formulas
C6 Solving Equations
C2 Transformations
C5 Inv. Trig.
C7 Right Triangle Trig. Specials
C5 Trig functions
C8 Polar & Complex Planes & Vectors
C7 Trig. LoS/LoC Area
C9 Parmetrics
C2 Functions
C4 Exponents & Logarithms Growth/Decay
C10 Decomposition
C3 Rational Functions & Inequalities
C13 Limits
C2 Piecewise