Basic Functions
1) Line $y = mx + b$.
2) Absolute value $y = |x|$
3) Parabola $y = ax^2 + bx + c$
4) Cubic $y = ax^3 + bx^2 + cx + d$
5) Higher order polynomial $y = ax^n + bx^{n-1} + cx^{n-2} + ...$
6) Hyperbola $y = \dfrac{c}{x}$
7) Square root $y = \sqrt{x}$
8) Semicircle – top $y = \sqrt{r^2 - x^2}$ or bottom $y = -\sqrt{r^2 - x^2}$
9) Step $y = [x]$, or in the handheld $y = \text{int}(x)$
10) Cube root $y = \sqrt[3]{x}$
11) Exponential $y = 2^x$
12) Tangent $y = \tan(x)$
13) Sinusoid $y = \sin(x)$
14) Polar $r = f(\theta)$
15) Parametric $(x, y) = (f(t), g(t))$

Draft Requirements (subject to change):
1) At least 60 frames. 30 of the frames must be distinct, and you may repeat frames to bring the total to 60.
2) At least 1/3 with photo background related to the animation (photo release form required for student pictures).
3) At least 20% of pictures must have a sinusoid which animates either by transformation or restricted domain.
4) At least 30% of picture must have a parametric or polar curve which animates either by transformation or restricted domain.
5) To be eligible for a C you must use 5 different basic functions.
6) To be eligible for a B you must use 7 different basic functions and synchronize to music.
7) To be eligible for an A you must use 9 different basic functions and synchronize to music and have original background photos (photos taken by your group members).
8) Use of more different basic functions makes you eligible for bonus points.
9) 90% of functions must have some transformation.
10) 80% of functions must have a restricted domain.
Bonus points will be awarded for extreme creativity.

Deliverables (what you will turn in):
1) Summary storyboard of your project (due 5/16). One per group.
2) A photo or photos for background images (due 5/23). Remember photos with students in them require a Model Release Form for each student included.
3) An Nspire file or files with all the relevant screens. (due 6/4) One per group.
4) A listing of your functions. Where a particular function was transformed on different screens you may list just the parent function with a note describing the transformations. (due 6/4) One per group.
5) A movie file (or link to uploaded youtube or other online service). (due 6/4)
6) Each group member must provide a paragraph (or more) (due 6/6) discussing:
   a) what you liked and disliked about the project
   b) what problems you encountered and how you overcame them
   c) what you learned
   d) amount of time spent by each person .
   e) any other comments you'd like to share.