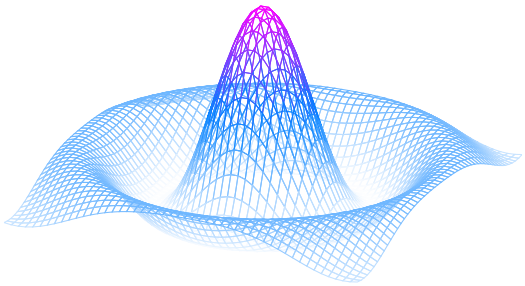
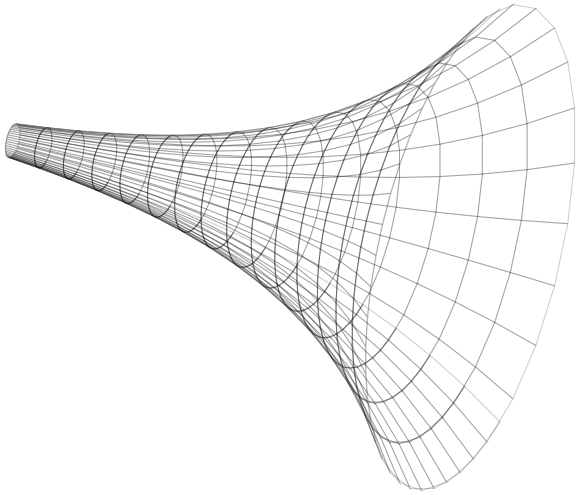
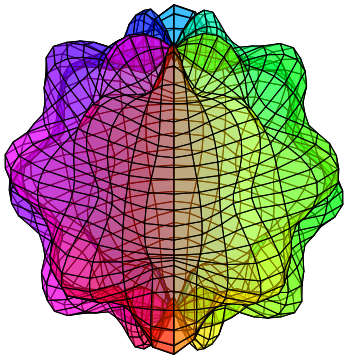
This is the 3D Cartesian graph of the function $f(x,y) = \dfrac{\sin(\sqrt{x^2+y^2})}{\sqrt{x^2+y^2}}$ (credit for code: the pgfplots manual)



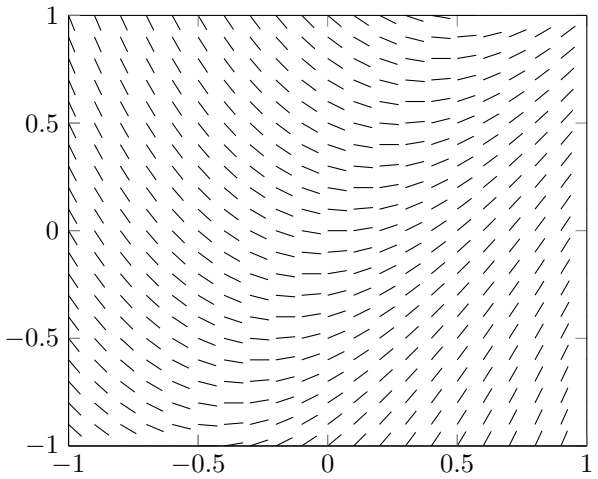
This is the surface area of revolution of the function $y = 2^x$, about the x-axis: (of my own creation)



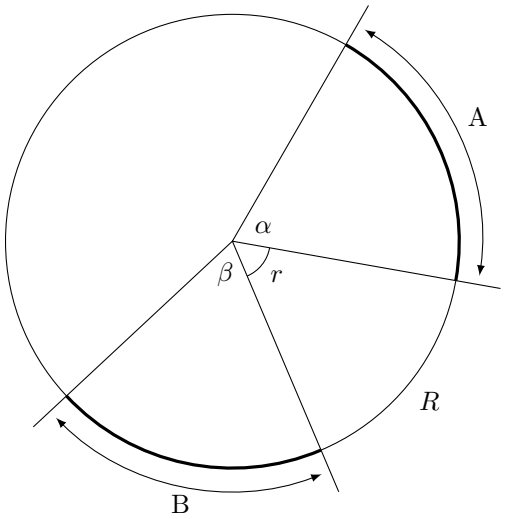
This is a 3D graph of the funtion $y = 1 + \frac{1}{5}\sin(5\phi)\sin(6\theta)$ in spherical coordinates: (credit for formula: Stewart, otherwise of my own creation)



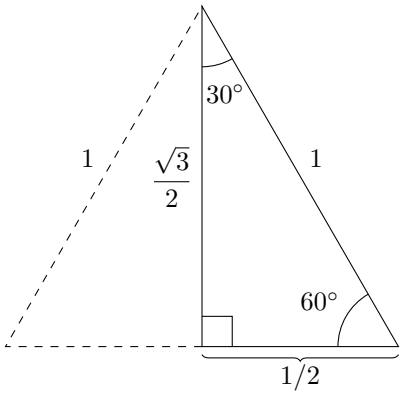
This is a slope field representing the differential equation $y' = 2x + y$: (of my own creation)



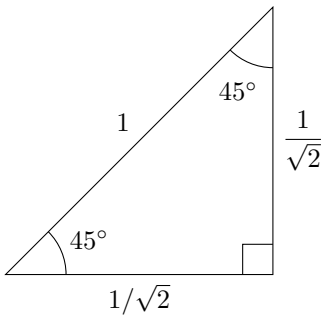
This is a geometric diagram from yesterday's class: (credit: you)



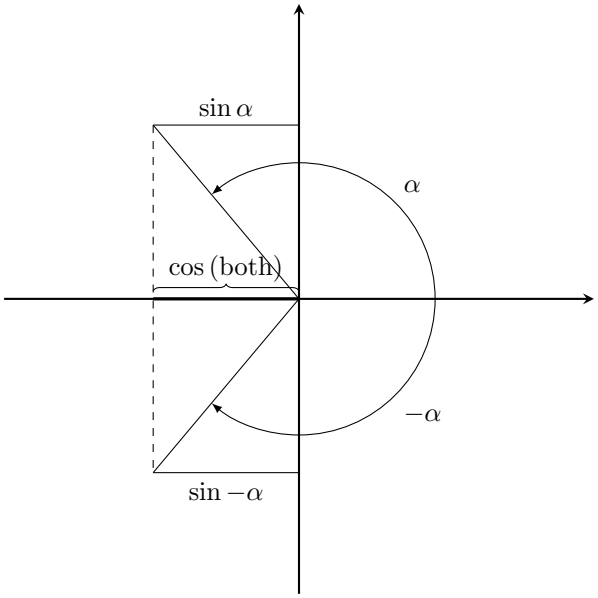
This is the $\angle 30° - 60°$ triangle. We can reflect it to obtain an equilateral (or "regular") triangle - something which we know the dimensions of, and which allows us to easily find the sidelengths of our special triangle using Pythagoras's Theorem: (credit: you)



The 45° right triangle (which is called an "Isosceles Triangle") is easier to do this with because we can readily apply the Pythagorean Theorem: (credit: you)



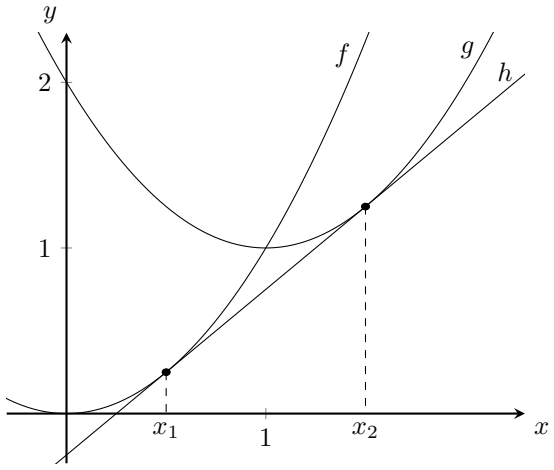
This is a geometric demonstration (from classs) of sine being an odd function, and cosine being an even function: (credit: you)



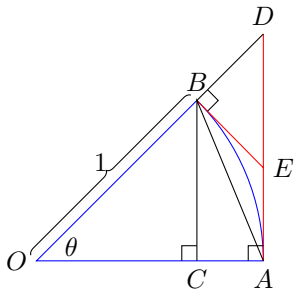
I can also do polynomial long division emaculately (I developed my own style which in my opinion is more consistent and professional looking than the ones in Stewart's review of algebra): (formula from Stewart, but style is my own)

$$
\begin{array}{r}
x^2 - x - 6 \\
x-2\overline{)\,x^3-3x^2-4x+12} \\
\underline{x^3-2x^2} \\
-x^2-4x \\
\underline{-x^2+2x} \\
-6x+12 \\
\underline{-6x+12} \\
0
\end{array}
$$

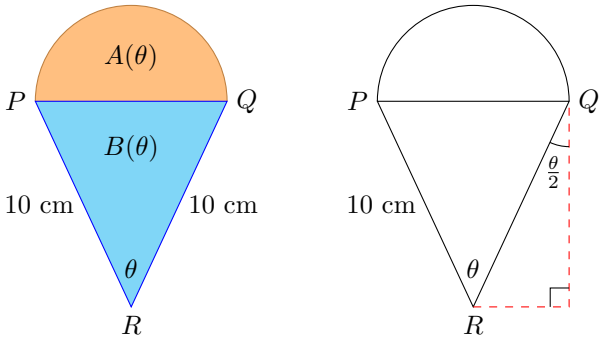
This is a diagram that a challenge problem in Stewart has you draw: (credit for formula: Stewart, rest is mine)



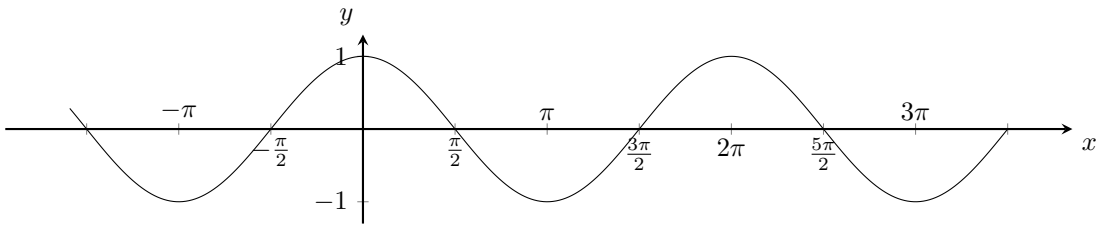
Early on in Stewart we prove the limit of sine x over x equals one using this diagram and the Sandwich Theorem: (credit for diagram: Stewart)



This is a limit problem from Stewart: (credit for first diagram: Stewart, second diagram with auxillary aid is mine)



And this is a trigonometric function: (based on diagram from Stewart)



And I am capable of much more! As an example, I can make beautiful volumes of revolution diagrams, but didn't include any since they were lost in a computer backup and I'm too tired to make any now.