

**Free, online mathematical and computational websites**

- [Desmos](#)
- [GeoGebra](#)
- [WolframAlpha](#)
- [Octave Online](#)
- [Symbolab](#)

**Desmos activities**

- [y acl B](#)
- [y acl B interval](#)
- [2 acl A](#)
- [2 acl B](#)
- [Threshold tester](#)
- [Threshold tester – 2D or complex](#)
- [Closed set](#)
- [Open set](#)
- [Open disk](#)
- [Continuity \(Desmos\)](#)
- [Floor discontinuity](#)
- [Delta Tester – continuity](#)
- [Delta Tester – lines](#)
- [Continuity of reciprocal](#)
- [Finding c to make continuous](#)
- [sin\(1/x\) vs x^2sin\(1/x\)](#)
- [Extreme values](#)
- [Derivative and difference quotient](#)
- [Function and its derivative](#)
- [Locally linear](#)
- [sinx and its derivative](#)
- [e^x vs ln^x and derivatives](#)
- [Antiderivative of x/2](#)
- [Area between curves](#)
- [Riemann sums – left endpoint](#)
- [Riemann sums – left/right/midpoint](#)
- [Function and its integral](#)
- [Pointwise convergence of monomials](#)
- [Pointwise convergence](#)
- [Sequence of powers of sine](#)
- [Uniform convergence](#)
- [Pointwise but not integral convergence](#)
- [Pointwise with continuous, but not integral convergence](#)
- [Bernstein polynomial](#)
- [Weierstrass Approximation Theorem](#)

**GeoGebra by Juan Carlos Ponce Campuzano (JCPC)**

- [Complex Analysis: A visual and interactive introduction](#)
- [JCPC's homepage on GeoGebra](#) – tons of great activities!

**GeoGebra activities**

- [Spiral and arbitrarily close](#)
- [Divergent sequence, two-point Slim](#)
- [Divergent sequence, plot and graph](#)
- [Limit of a sequence](#)
- [Convergent sequence, plot and graph](#)
- [Divergent sequence, complex](#)
- [Topologist's sine curve \(connected, not path connected\)](#)
- [Images of neighborhoods, f](#)
- [Images of neighborhoods, g](#)
- [Images of neighborhoods, h](#)
- [Continuity and preserving closeness](#)
- [Discontinuity and not preserving closeness](#)
- [Discontinuous and unbounded](#)
- [Continuity and limit at 0 \(squeezed Topologist's...\)](#)
- [Topologist's sine curve](#)
- [Continuity \(GeoGebra\)](#)
- [Continuous but not differentiable](#)
- [Continuity with a 2x2 matrix](#)
- [Slopes of secant and tangent lines](#)
- [Rolle's Theorem and Mean Value Theorem](#)
- [Upper and lower Riemann sums](#)
- [Uniform convergence 2](#)
- [Taylor Approximation](#)
- [Taylor Polynomial Approximation of Functions](#)
- [Riemann-Integral versus Lebesgue-Integral](#)

**Other Desmos activities**

- [The set of positive integers has measure 0](#)
- [Convergence in  \$L^1\$  but not  \$L^\infty\$](#)
- [Cauchy sequence of functions in sup/max metric](#)
- [Approximation by simple functions](#)
- [Someone's awesome Mandelbrot set](#)

**Old Desmos activities**

- [Pointwise convergence of monomials](#)
- [Sequence of powers of sine](#)
- [Uniform convergence](#)
- [Pointwise convergence](#)
- [Pointwise vs uniform convergence](#)
- [Pointwise but not uniform convergence](#):  $g_n(x) = x^n$  on  $[0,1]$
- [Pointwise convergence 2](#):  
 $f_n(x) = (x^{2+nx})/x$
- [Uniform convergence 2](#):  
 $g_n(x) = 1/(n(1+x^2))$
- [Pointwise vs uniform convergence 2](#):  $f_n(x) = (\sin x)^n$  on  $[-2\pi, 2\pi]$
- [Pointwise but not integral convergence](#):  $f_n(x) = n$  on  $(0, 1/n)$ ,  $f_n(x) = 0$  on  $\{0\} \cup [1/n, n]$
- [Pointwise with continuous seq., but unbounded limit](#)