

Justification Toolkit



We've put together this toolkit of resources to help define and clearly communicate the benefits of the NumWorks graphing calculator.

We hope these resources can assist you in making the case of why you and your school should transition to using NumWorks in your classes.

Justification Toolkit Content



Why NumWorks?



Benefits worksheet



Features



Commercial
Offers



Parent and Administration
Letters



Testimonials from
Math Teachers

If you have any questions, ideas or suggestions, please reach out to:

contact@numworks.com

Why NumWorks is the best calculator for your students

NumWorks is a more modern and intuitive graphing calculator developed in collaboration with teachers and designed with today's students in mind. Inspired by the electronic devices that students use daily, the Numworks app-based design empowers them to explore and discover mathematics on their own.

An app for every task

The NumWorks calculator is simple yet powerful, giving students all of the tools they need to be successful in their courses from middle school to college!



Exam ready

The NumWorks graphing calculator is included on the list of permitted calculators for the IB DP examinations and all College Board tests: PSAT, SAT and AP. It also meets the requirements of the ACT calculator policy. In addition, NumWorks is permitted on most state exams.



Free Emulator

All students should have access to the same device no matter where they are. Everyone can access all the features of the calculator software on a computer and mobile device, at no additional cost!



Benefits worksheet

Here are some goals common to mathematics teachers and the ways that using NumWorks can help meet these goals.

Goal	How NumWorks supports your goal
Make math approachable and accessible to all students.	When students perform a calculation on the NumWorks calculator, they'll see mathematical notation exactly like on their paper. Instead of using a function that is hidden deep in a menu, the NumWorks calculator automatically provides results displayed in exact and decimal form, helping students make mathematical connections.
Attend to precision.	Mathematical fidelity matters at NumWorks. We placed an emphasis on making sure our tool accurately represents the mathematics. For example, $\frac{2}{3}$ is displayed as approximately equal to 0.666667 while $\frac{1}{2}$ is shown to be exactly equal to 0.5.
Broaden pathways to rigorous mathematics.	By spending less time teaching how to use the calculator, you can use your valuable class time to dig deeper into mathematical concepts. The NumWorks calculator provides tools for all your content needs.
Increase test scores.	Speed matters in a lot of high-stakes exams. Students don't have time to wait for a graph to finish plotting. The NumWorks calculator outperforms other calculators in power and performance.
Provide regular access to technologies that support and advance mathematical sense making, reasoning, problem solving and communication.	In addition to the handheld device, students can access all the amazing features of the calculator software on their computer and phone, at no additional cost!
Incorporate the most up-to-date tools and resources in your classes.	Through collaboration with teachers and the general education community, NumWorks releases frequent software updates to provide you and your students with the most advanced user experience, all for free!

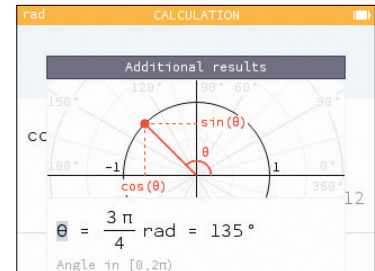
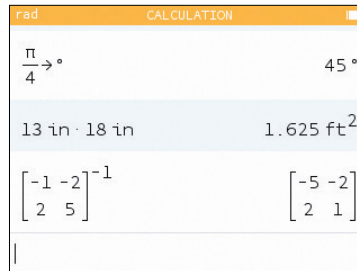
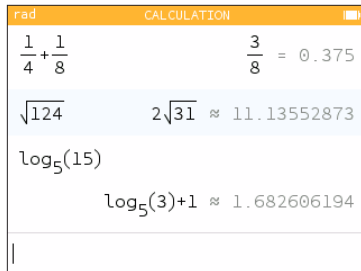
Features and Environment

An app for every task



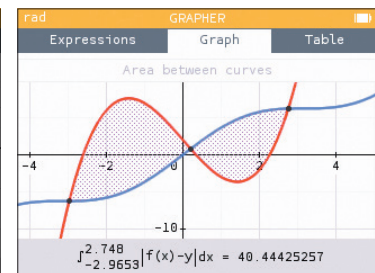
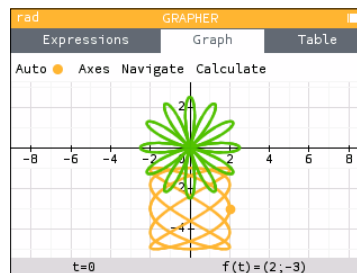
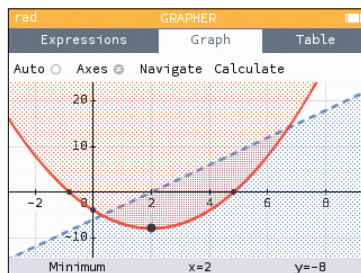
Calculation:

Accessible calculations where the math appears the way you would write it on paper with exact results, decimal approximations, additional results and more.



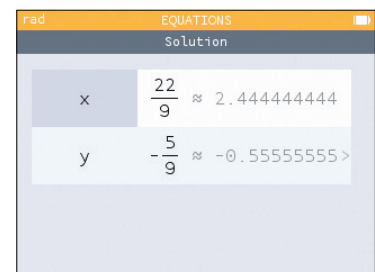
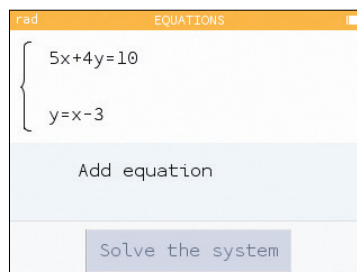
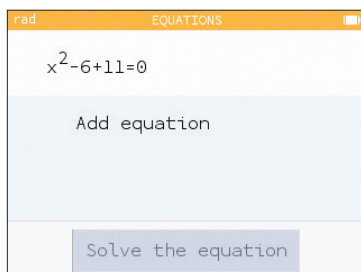
Grapher:

Create beautiful graphs instantly in the perfect viewing window. This app will allow you to calculate key features, derivatives and integrals with ease.



Equations:

Solve equations and systems of linear equations with both exact and numerical solutions.



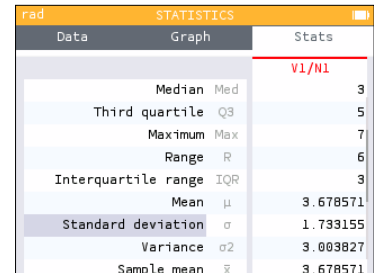
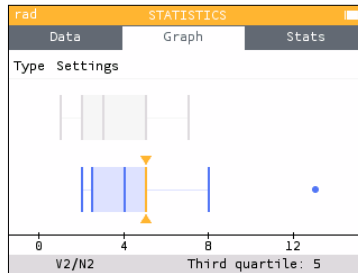
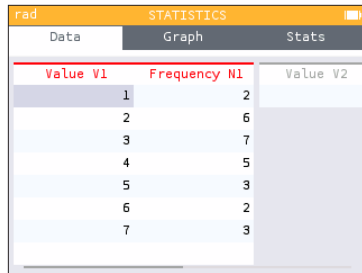
Features and Environment

An app for every task



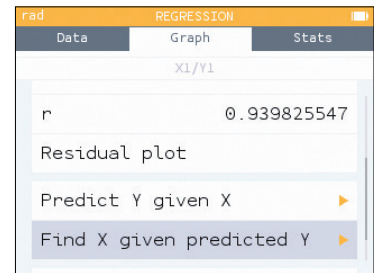
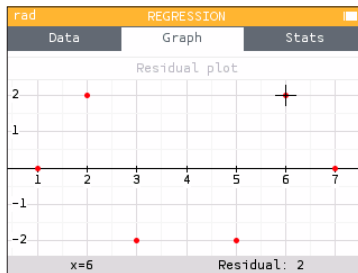
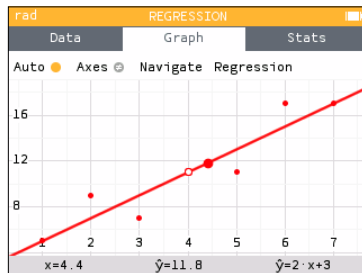
Statistics:

You can enter data, view graphs, and analyze summary statistics all in one app. Our all-inclusive Statistics application lets you do it all with easy-to-navigate tabs.



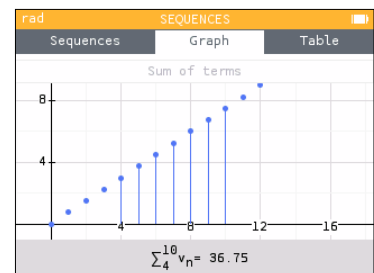
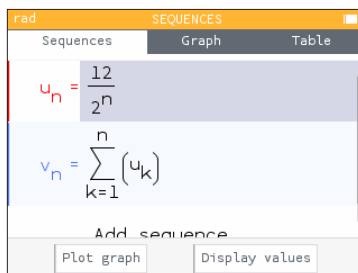
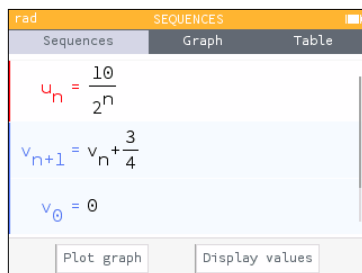
Regression:

Enter your data and the scatterplot is automatically displayed in the best viewing window. Create regression models, residual plots and summary statistics intuitively.



Sequences:

Our template system lets you write recursive and explicit sequences with ease. The math engine is so powerful, you can even link your sequences together!



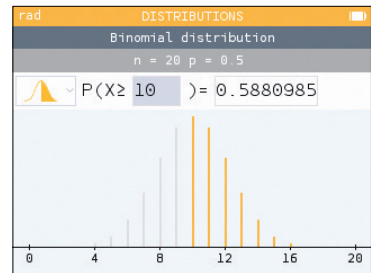
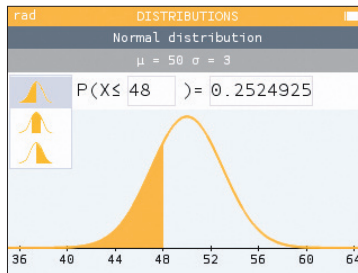
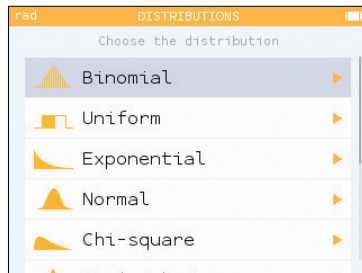
Features and Environment

An app for every task



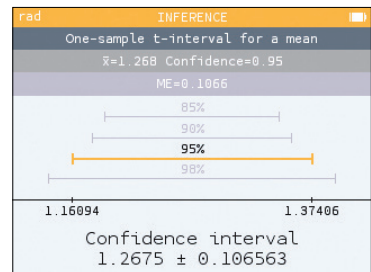
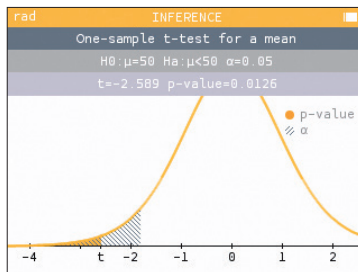
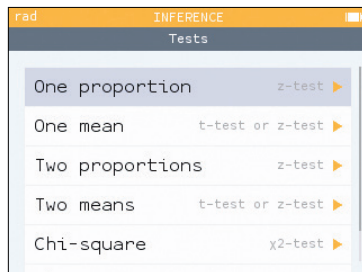
Distributions:

The interactive visuals of the Distributions application make calculating probabilities a cinch.



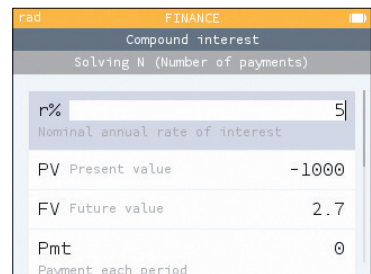
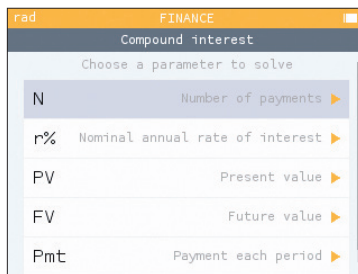
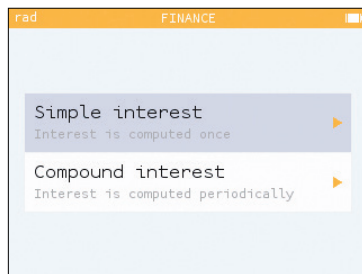
Inference:

The inference application provides easy to use wizards to help perform significance test and construct confidence intervals. Valuable visuals are provided to deepen understanding.



Finance:

Financial problems involving simple and compound interest can be solved using simple wizards.



Features and Environment

An app for every task



Elements:

Explore the periodic table with our Elements application.
Learn facts about each element and see trends across the entire table.

rad ELEMENTS

H																	He															
Li	Be																	B	C	N	O	F	Ne									
Na	Mg																	Al	Si	P	S	Cl	Ar									
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr															
Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe															
Cs	Ba																	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn
Fr	Ra																	Rf	Db	Sg	Bh	Hs	Mt	Ds	Rg	Cn	Nh	Fl	Mc	Lv	Ts	Og
		La	Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu																
		Ac	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr																

● Transition metals ***

rad ELEMENTS

Gold

Z Atomic number	79
A Mass number	197
M Molar mass	196.97 g·mol ⁻¹

rad ELEMENTS

Boiling temperature ***



Python:

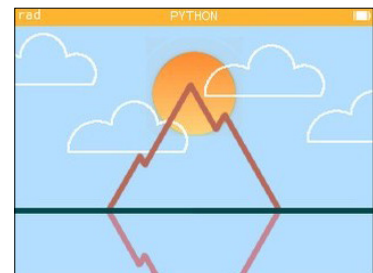
Python is a simple and universal programming language that is taught in many secondary schools around the world. Python is used in many careers and is an industry-standard programming language.

rad PYTHON

```
1 from math import *
2 from turtle import *
3 def squares(angle=0.5):
4     reset()
5     L=330
6     speed(10)
7     penup()
8     goto(-L/2,-L/2)
9     pendown()
10    for i in range(660):
11        forward(L)
12        left(90+angle)
```

rad PYTHON

Remove 1, 2 or 3 matches.
The computer plays after you.
Left=1 ; up=2 ; right=3



Settings:

Make changes to settings that apply to all applications. Choose your angle measure, language and more. Customize available features using Press-to-Test.

rad SETTINGS

Angle measure	Radians ▶
Result format	Decimal ▶
Writing format	Natural ▶
Complex format	Real ▶
Brightness	<input type="range"/>
Python font size	Large ▶

rad SETTINGS

Press-to-test

Toggle off the features you wish to deactivate

Exact results	☒
Equation solver	☒
Inequality graphing	☒
Advanced graphing	☒
Implicit plots and grapher details	

Commercials offers



We have bulk order discounts when
20 or more calculators are purchased.

Those discounts are as follows:

10% off each device
+
One free calculator
for every 20
calculators purchased
+
Free shipping



When purchasing a bulk order, you have **2 options!**
Both options include a single delivery to your school.

Group order

Individual student payment

No need to take orders or collect money from your students.
Students purchase their device and pay directly online.

or

Business order

Organization payment

Create and download a quote instantly with your NumWorks
Account. Once you are ready, place your order online.

Dear Administration,

Please consider having our school make the switch to the NumWorks graphing calculator for our math curriculum.

NumWorks is a more modern and intuitive graphing calculator developed in collaboration with teachers and designed with today's students in mind. Inspired by the electronic devices that students use daily, this calculator's app-based design empowers them to explore and discover mathematics on their own. Without the confusing abbreviations, complicated procedures and obscure menus that make other devices painful to use, students and teachers can focus on the math.

The NumWorks calculator is simple yet powerful, giving students all of the tools they need to be successful in their courses from middle school to college! The device will grow with students, as the free software updates ensure that they have immediate access to the newest features from NumWorks as soon as they're released. I believe that equipping our students with these devices will allow us to make math education accessible and approachable for all students.

The NumWorks graphing calculator is included on the list of permitted calculators for the IB DP examinations and all College Board tests: PSAT, SAT and AP. It also meets the requirements of the ACT calculator policy. Further details are available at: num.works/exams.

The NumWorks graphing calculator retails for \$99.99, but NumWorks offers schools and districts a discount on orders of 20 or more devices. In addition to the handheld device, students can access the NumWorks graphing calculator on their computer or phone, at no additional cost!

To equip all of our math teachers with the full knowledge of the calculator, NumWorks is offering a free calculator to all high school math teachers and can provide our department with a free training workshop.

The team of Math Teachers in Residence at NumWorks is incredibly supportive and can answer any of our questions by contacting them at contact@numworks.com.

I look forward to discussing this further with you!



NUMWORKS

Learn more by visiting numworks.com

Dear Parents and Guardians,

While reviewing your student's supply list, you may note that our school is now recommending the NumWorks graphing calculator.

For those of you that are not familiar with NumWorks, it is a more modern and intuitive graphing calculator developed in collaboration with teachers and designed with today's students in mind. Inspired by the electronic devices that students use daily, this calculator's app-based design empowers them to explore and discover mathematics on their own.

The NumWorks calculator is simple yet powerful, giving students all of the tools they need to be successful in their courses from middle school to college! We believe that equipping our students with these devices will allow us to make math education accessible and approachable for all students.

The NumWorks graphing calculator is included on the list of permitted calculators for the IB DP examinations and all College Board tests: PSAT, SAT and AP. It also meets the requirements of the ACT calculator policy. You can learn more about exam compliance at num.works/exams.

The NumWorks graphing calculator retails for \$99.99 and can be purchased at a variety of retailers, including directly from the NumWorks website. In addition to the handheld device, your student can access all the amazing features of the calculator software on their computer and phone, at no additional cost!

If you have any questions about how the NumWorks graphing calculator will be used in your students' courses, don't hesitate to reach out.

Sincerely,

Your Teacher



NUMWORKS

Learn more by visiting num.works

Estimados Padres y Tutores,

Al revisar la lista de suministros de su estudiante, puede notar que nuestra escuela ahora recomienda la calculadora gráfica NumWorks.

Para aquellos de ustedes que no estén familiarizados con NumWorks, es una calculadora gráfica más moderna e intuitiva desarrollada en colaboración con profesores y diseñada con los estudiantes de hoy en día en mente. Inspirada en los aparatos electrónicos que los estudiantes usan diariamente, el diseño de esta calculadora basada en aplicaciones les permite explorar y descubrir las matemáticas por sí mismos.

La calculadora NumWorks es simple pero poderosa, brindando a los estudiantes todas las herramientas que necesitan para tener éxito en sus cursos desde la escuela secundaria hasta la universidad. Creemos que equipar a nuestros estudiantes con estos aparatos nos permitirá hacer que la educación matemática sea accesible y asequible para todos los estudiantes.

La calculadora gráfica NumWorks está incluida en la lista de calculadoras permitidas para los exámenes del Programa del Diploma del IB y todas las pruebas de la College Board: PSAT, SAT y AP. También cumple con los requisitos de la norma de calculadoras del ACT. Pueden obtener más información sobre la conformidad con los exámenes en num.works/exams.

La calculadora gráfica NumWorks se vende por \$99.99 y se puede adquirir en una variedad de comerciantes, incluyendo directamente desde el sitio web de NumWorks. Además del aparato portátil, su estudiante puede acceder a todas las increíbles funciones del software de la calculadora en su computadora y teléfono, ¡sin costo adicional!

Si tienen alguna pregunta sobre cómo se utilizará la calculadora gráfica NumWorks en los cursos de su estudiante, no duden en comunicarse con nosotros.

Atentamente,

Su Profesor



NUMWORKS

Más información en numworks.com.

Transformative Technology



How introducing NumWorks helped boost Regents Exam scores

Discovery

Kylie was first introduced to NumWorks during the summer of 2021. She and her department were given sample calculators to explore over their summer break, and Kylie dove right in!

“I played around with it that summer and thought, **this could be something really transformative for my students,**” Kylie said. “I teach a high-risk population; students with IEPs, ELLs, or challenging home lives. If something feels inaccessible, they shut down. The traditional calculator had too many menus and syntax. It wasn’t intuitive.”

NumWorks offered the clarity that other devices lacked.

Implementation

Kylie didn’t just introduce NumWorks graphing calculators to her students; she rethought her entire curriculum from the ground up.

The impact NumWorks had on her teaching was immediate. Kylie was able to reduce the time it took to teach calculator processes to students, which allowed more time to teach the actual mathematics.

“I could take a three-day lesson and shorten it to a day and a half,” she explained. **“I wasn’t spending a whole day teaching how to use the calculator.** That extra time let me focus on concepts.”

Results

In New York, passing the Algebra 1 Regents is a graduation requirement. For Kylie’s students, **it can be the difference between earning a diploma or not.**

After her first year teaching with NumWorks, **her Regents pass rate jumped from 50% to 97%.** The student profile didn’t change. **The difference was the tool.**



Summary

As a high school math teacher in New York serving predominantly at-risk students, **Kylie was searching for ways to remove barriers from her math classroom.**

After discovering NumWorks, Kylie led a quiet revolution in her school’s math department, introducing the NumWorks graphing calculator to her Algebra 1 students, redesigning her entire curriculum around it, and ultimately watching as **her state math exam pass rates jumped from 50% to 97%.**



Kylie Sullivan
Math Teacher - Albany, NY

*My message to teachers:
You’re not on your own.*

*The NumWorks team is made up
of teachers who’ve been there.*

*And you can customize what
your students can access
on the calculator.*

It’s flexible enough for everyone.

Testimonials

Our users are our best ambassadors.
Thank you to all the Math teachers who shared their feedback!



I loved it so much I talked my department and school into getting class sets, and we now have 220 NumWorks calculators. I'm already using them in my classroom and the kids LOVE them. They are much more user friendly than the old TI-Nspires that I have been using the past three years.

Jennifer B, Math Teacher, Idaho Falls Senior High School



The interface is very intuitive. I don't have to dig through a bunch of menus to find what I need. The statistics menu area is FABULOUS!! I really like that I can see all the information and graphs within the same menu without having to turn things on and off.

Rachael N., Math Teacher, Andover High School



I like the simple user interface. I love the feature that shows the exact and decimal approximations. That feature has really helped my Algebra II students to see the exact solutions of radicals and logarithms as a "number".

Wesley H, Math Teacher, Fayette Ware Comprehensive High School



I like that it is intuitive to use. I find myself spending a lot of class time explaining to the students how to complete simple tasks by navigating the sometimes confusing menus on other graphing calculators. Students these days are used to user interfaces and technology that works for them and not the other way around. The Numworks calculator is nice in that I am able to hand it to a student and they can basically just figure it out.

Randy L, Math Teacher, Cornell High School