

Welcome

The students of Abby Brown's Calculus C, Calculus D, Linear Algebra, and Advanced Topics classes have had the unique opportunity to explore advanced mathematical concepts through a joint program with San Diego State University. Each class is taught with the rigor and discipline expected of college-level courses, with a particular emphasis on projects and presentation that are shared today.

In addition, the newly-founded Computational Thinking Club (CT@TP) has helped many students improve upon their Mathematica skills through workshops and exploration days. Participants in CT@TP have done computational thinking, learn applications of machine learning, and solve a variety of problems with the Wolfram Language.

Students have extended applications of algebra, geometry, trigonometry, and calculus across a broad spectrum of topics including physics, biology, chemistry, art, sports, games, and artificial intelligence. The large variety of projects on display is the result of months of exploration and academic growth. Tonight is a celebration of everything we have learned.

Please enjoy your visit.

A Special Thanks To:
Torrey Pines High School
Associated Student Body
National Honor Society
Administration Team
Custodial Staff
TPHS Teachers

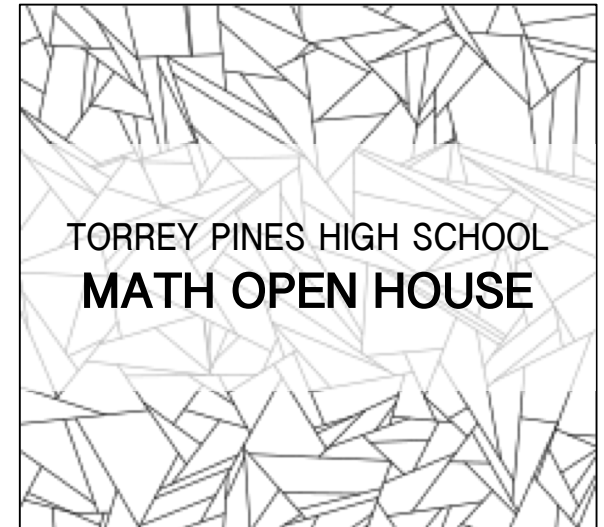
SDSU Professors
MiraCosta College

Family, Friends, and Community
Members

Our Teacher, Ms. Abby Brown

Event Coordinators:
Carine You
Jodie Hoh

Graphic Designers:
Jodie Hoh
Rohith Kodukula



TUESDAY, MAY 29, 2018
6:30 to 8:00 PM
TORREY PINES HIGH SCHOOL

PROJECTS BY:

Calculus C / D
Calculus D / Linear Algebra
Advanced Topics in Mathematics II
Computational Thinking

projects

Aditya Guru
Facial Identification from a Sketch
Machine Learning

Ajay Kumar & Justin Lee
Cardiac Output
Simpson's Rule

Akari Takimoto & Emily Zhang
Equal All Around
Contour Maps

Alan Edmonds
Blotto
Zero-sum Games

Alexandra Babakanian & Sydney MacDonald
How to Best Eat a Donut
Volume

Amrita Moturi & Breana Nguyen
Rock Bottom
Gradients

Analise Butler & Shannon Brownlee
Adventures in Candyland
Quadric Surfaces

Ananth Rao
A Novel Approach to Novels
Semantic Analysis

Angela Liu & Mincheol Park
And Then There Were Zero
Exponential Decay and Logistic Growth

Antonio Zhang & Matt Herron
The Skittle's Crisis of '08
Cross Product

Ava Hanna & Lauren Hanna
Just Skin Deep
Partial Derivatives

Ben Marks & Marco Napolitano
The Shot
Projectile Motion

Biyao Li & Neo Chen
Rubik's Cube
Virtual Rubik's Cube

Carine You
Asteroid Attack
Observational Astronomy

Caroline Mackey & Kylie Preske
Out of This World!
Vector Calculus

Charles Bao & Edwin Lim
A Solid Solution
Double/ Triple integrals

Chonling Liu & Edward Xie
Pendulum Polynomials
Period of a Pendulum

Derek Fu
Photoshop
Matrix Transformations

Eamon Aalipour
Multivariable Calculus with E/M
Vector Calculus

Elliot Kim & Michael Huo
Calculus and Physics: Gravity
Integration

Erica Yeawon Hwang
Scales!
Music and Manipulate

Farzaan Kaiyom
Curvaceous
Cryptography
Cryptography

Geffen Cooper
Self-Balancing Robot
PID Controller and Raspberry Pi

Isaac Gelman
ARTificial Intelligence
Deep Learning

Isabella Aguiar & Kristina McKee
Now We Got Bad Blood
Applications of Integration to Biology

Jacey Yang & Maxine Sy Chu
The Diffusion Conclusion
Multiple Integrals

Jared Doan & Stefen Pegels
Boat
Related Rates

Jerry Huang & Joshua Golden
Putting Stokes' to Work
Stokes' Theorem

Jodie Hoh
Pokémemes
Probability and Statistics

Jonathan Farmer & Thomas Freedman
Fire Control Systems
Vector Calculus

Jonathan Kuo
Build-A-Body
3D-Printing and Anatomy

Jonathan Mi & Surya Madhan
Center of Mass
Multiple Integrals

Joshua Chung & Sophia Chen
Adventures With Gauss's Law
Surface Integrals

Joshua Hornilla & Marzieh Barnes
HotDog Analytica
Moment of Inertia

Kathy Wang
Game, Set, Math!
Analyzing the Mathematics of Tennis

Kennedy Quay
Gymnastics Using Parametric Equations
Parametric Equations

Kevin Hu
Pride and Prejudice and Predictions
Neural Networks

Kevin Ren
Rolling the High Number
Probability and Expected Value

Kiara McNulty
Machine Learning and Audio
Machine Learning

Matthew Li & Vince Gong
Outbreak
Multiple Integrals

Matthew Rosenfield
Finding Your Dream School
Algorithmic Coding

Minha Kim
Neuromathy
Artificial Intelligence and Neural Networks

Peter Liu
Creating a File Explorer for Wolfram Cloud
Wolfram Cloud

Rachel Lian
Music and Machines
Machine Learning

Raymond Yang
FORTRAN and Taylor Series
Function Approximation

Reagan Kan
STATE of the unionS
Statistics

Richard Li
Math-esthetics
Graphics Manipulates

Robert Bartsch
Hyper-Tic-Tac-Toe
Logic and Algorithms

Robin Yu & William Zhang
Calc-minton
Projectile Motion

Rohith Kodukula
Fishing for Cards
Game Theory

Russell Chiang
Revolutionary Cams
Persistence of Vision, Cylindrical Cams

Ryan Lin
Mastering the Rubik's Cube
Machine Learning

Sanil Gandhi & William La
Formulating Your Flop Shot
Arc Length

Simon Kim
Bar and QR Codes
Bar and QR Codes

Skylar Jung
Language Interpretation
Linguistics and Machine Learning

Sophia LeRose
Snowboarding into Math
Physics

Stacy Hu
Oh No Ozone!
Stratospheric Ozone Depletion

Steve Seong
Aliens
Double Integrals in Polar

Vanessa Beeler
Without Geometry, Life is Pointless
Geometry

Xiang Yao & Yuhao Zhuang
Doppler's Doppler
Chain Rule/Doppler's effect

YeRin You
Discovering Languages
Machine Learning

Likith Palabindela, Ryan Heo & Spencer Schroff
Infinite Series Classifier
Machine Learning