



Secondary Math Resource Proposal



Presenter:

▶ Amy Ingente, Math Coordinator

2018

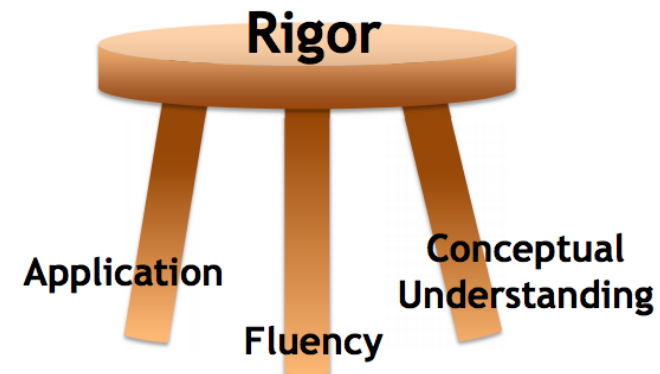


Purpose

- ▶ Purchase of resources and technology to support the implementation of secondary mathematics.
 - Algebra 1–2, Geometry, Geometry Bridge, Algebra 3–4, Pre-Calculus, AP Calculus, AP Statistics, and Finite Mathematics.
- ▶ Name changes
 - Algebra 1–2 changed to Algebra 1
 - Algebra 3–4 changed to Algebra 2
 - Geometry 1–2 changed to Geometry

Rationale

- ▶ Current resources adopted in 2011.
- ▶ Current resources are not well aligned and do not contain the level of rigor required within the standards.
- ▶ The proposed resources contain the rigor and all of the content called for in the standards.



Aligned to the District Strategic Plan


Student Achievement – Priority #1

We will implement and support a
challenging, standards based curriculum
across all content areas.

Description of Procedures

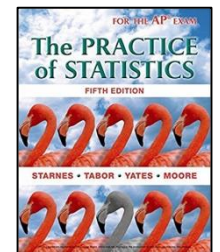
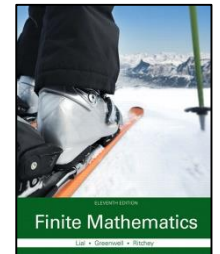
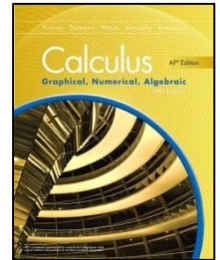
- ▶ March 2017
 - School visits

 - ▶ May 2017
 - Vendor Presentations
 - Rubrics – Standards Alignment

 - ▶ Fall 2017
 - Top 3 resources
 - Teach a series of lessons from each resource
 - Rubrics – Usability and Needs of Students
 - Dual Language
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Proposed Resources

- ▶ Algebra 1, Geometry, Geometry Bridge, Algebra 2
 - Discovery *Math Techbook* – all digital!
 - Laptop Computers
 - Student materials in Spanish
- ▶ Pre-Calculus, Calculus
 - *Graphical, Numerical, Algebraic Series*, Pearson
 - TI-nspire Calculators
- ▶ Finite Mathematics
 - *Finite Mathematics*, Pearson
- ▶ AP Statistics
 - *The Practice of Statistics, 6th Ed.*, MacMillan



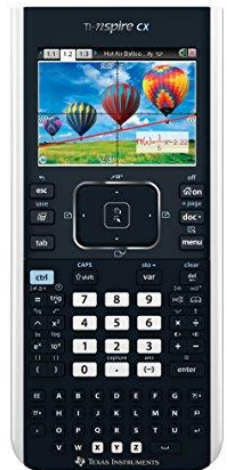
Proposed Resources

- ▶ 1 laptop per student – Dell Chromebook
 - Touchscreen
 - Tablet style hinge
 - For students enrolled in Alg 1, Geo, Alg 2
- ▶ 1 charging station per classroom (all content areas)



Proposed Resources

- ▶ College Board's AP Calculus Course Description
 - “The use of graphing calculators is considered an integral part of the AP Calculus courses, and it is required on some portions of the exams.”
- ▶ Classroom sets of TI-Nspire calculators
 - Provide every Junior student with a graphing calculator when they take the SAT



Recommendations for Implementation

- ▶ Adoption of the proposed resources for the 2018–2019 school year
- ▶ Professional development
 - Math Resources
 - May, Summer, Fall, ongoing
 - All high school teachers
 - Content area technology in the curriculum
 - Chromebooks in the classroom

Recommendations for Implementation

► Discovery Digital Leader Corps

- 3 year system
- Effective use of technology in the classroom
- Professional Learning and development of Learning Labs

60 Teachers

(across all sites and may include coaches/teacher leaders)

- 5 Core Learning Days
- 10 Instructional Support Days
- Ongoing Virtual Support

Building + District Admin

- 2 Core Learning Days
- Admin Coaching Days
- Ongoing Support

Resource Cost Analysis

| Description | Qty | Cost per Unit | Extended Cost |
|---|--------|---------------|----------------|
| Algebra 1: Math Techbook – Algebra 1 | 3500 | \$66.50/year | \$232,750/year |
| Geometry & Geometry Bridge: Math Techbook – Geometry | 3500 | \$66.50/year | \$232,750/year |
| Algebra 2: Math Techbook – Algebra 2 | 3500 | \$66.50/year | \$232,750/year |
| Pre-Calculus: Demana, Precalculus: Graphical, Numerical, Algebraic, (HS Binding) Common Core Edition 2018 | 1600 | \$212.97 | \$340,752.00 |
| Finite: Finite Mathematics by Lial/Greenwell/Ritchey. Student Edition + MyMathLab (6-year access) | 450 | \$206.97 | \$93,136.50 |
| AP Calculus: Advanced Placement Calculus 2016 Graphical, Numerical, Algebraic, 5 th Edition, Student Edition + MyMathLab (6 year access)+ AP Calculus 2016 Graphical, Numerical, Algebraic Test Prep Workbook | 650 | \$219.97 | \$142,980.50 |
| AP Statistics: The Practice of Statistics, 6th edition Student Textbook + 6 years of SaplingPlus Full (ebook and homework) + Strive for a 5 Guide: Preparing for the AP Statistics Exam, 6th edition | 250 | \$183.59 | \$45,897.50 |
| TI-Nspire Calculators | 2000 | \$121.17 | \$242,340.00 |
| Dell Chromebook Education Laptop 11 3180 | 11,000 | \$339 | \$3,729,000 |
| Belkin Store And Charge Station | 1000 | \$230 | \$230,000 |
| | | Total | \$5,522,356.50 |

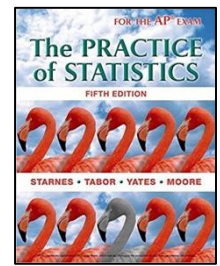
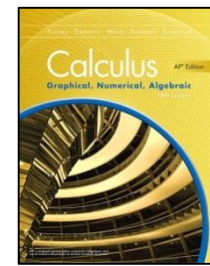
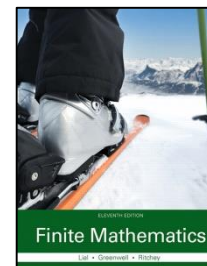
Professional Development Cost Analysis

| <u>Description</u> | <u>Qty</u> | <u>Cost per Unit</u> | <u>Extended Cost</u> |
|--|------------|---|----------------------|
| Math Resource Professional Development | 7 years | Year 1 - \$156,800 Year 2 - \$42,000 Year 3 - \$28,000 Year 4-7 - \$14,000 | \$282,800 |
| Digital Leader Corps | 3 years | Year 1 - \$512,645 Year 2 - \$502,548 Year 3 - \$503,650 | \$1,518,843 |
| | | Total | \$1,801,643 |

Evaluation of Change

► Math Resources

- Data will be reviewed from indicators such as
 - District common assessments
 - PSAT and SAT
 - For AP Statistics and AP Calculus
 - Percent of students taking AP exams
 - AP exam passing rates



Evaluation of Change

► Technology

- Data will be reviewed from indicators such as
 - Digital resource usage
 - Student devices (repairs, loss, etc.)
 - Survey of students and faculty



