

# PROBLEMS WORTH SOLVING



MATH  
TECHBOOK™

DiscoveryEducation.com/MathTechbook

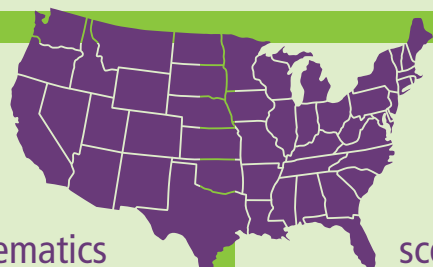
## U.S. MATH EDUCATION IS AT A TIPPING POINT

ONLY **39%** of 4th graders score at or above the "proficient" level in mathematics <sup>1</sup>

**34%** of 8th graders

**23%** of 12th graders

**16%** of high school seniors are proficient in mathematics and interested in a STEM career <sup>2</sup>



**74%** of high school seniors scored below the grade-appropriate level in math <sup>3</sup>

**F's & D's** Mathematics had 2x as many F's and D's as compared to other subjects <sup>4</sup>

ABOUT **71%** of Black and Hispanic graduates take Algebra II and/or some trigonometry <sup>5</sup>

**COMPARED WITH**

**83%** of Asian graduates

**77%** of white graduates

## NATION'S REPORT CARD SHOWS STAGNANT SCORES FOR MATH <sup>6</sup>

The U.S. is falling behind internationally, ranking 25th in mathematics <sup>2</sup>

Fewer than **8%** of American 15-year-olds have sophisticated math skills they can apply to solve real-world problems. <sup>7</sup>



**Bottom 5** Americans rank in the bottom 5 in numeracy <sup>8</sup>

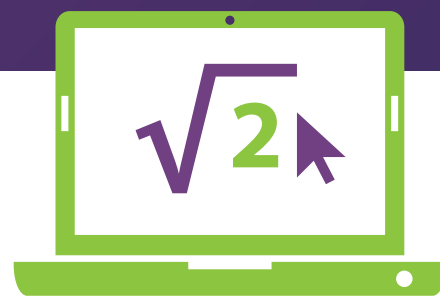
## HIGHER EDUCATION

**60%** of the 13 million 2-year college students in the U.S. take remedial math courses;

**75%** of them fail or drop the courses and leave college with no degree <sup>9</sup>



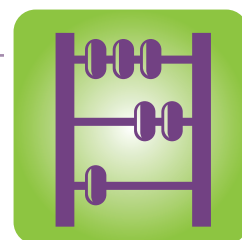
Women comprise **28%** of the doctorates in mathematics and statistics in 2011-2012, only 5% up from two decades earlier <sup>10</sup>



1 in 6 math teachers is implementing a flipped learning model using videos that they have created or sourced online. <sup>11</sup>

**40+%** of high school principals

are now offering online classes for students in math <sup>11</sup>



"The new math of the '60s, the new, new math of the '80s and today's Common Core math all stem from the idea that the traditional way of teaching math simply does not work." <sup>8</sup>

43 states have implemented Common Core State Standards, yet teachers continue to struggle to effectively teach the material to students <sup>8</sup>

## MATH CAREERS

Statisticians will comprise 27 percent, actuaries will comprise 26 percent, and mathematicians will comprise 23 percent of projected math careers from 2012-22 <sup>12</sup>

**\$102,440** Median salary for mathematicians = \$102,440. <sup>12</sup>



**1 out of every 10 jobs** STEM fields make up more than 1 out of every 10 jobs in the U.S. and earn nearly double the national average <sup>12</sup>

**Highest paying** STEM occupations were the highest paying occupations in 2012. <sup>5</sup>

1 [http://hechingerreport.org/content/u-s-math-education-is-broken\\_2356/](http://hechingerreport.org/content/u-s-math-education-is-broken_2356/)

2 <http://www.ed.gov/stem>

3 <http://changetheequation.org/press/new-survey-americans-say-%E2%80%9Cwe%E2%80%99re-not-good-math%E2%80%9D>

4 [http://hechingered.org/content/americas-math-problem-should-we-get-rid-of-algebra\\_5418/](http://hechingered.org/content/americas-math-problem-should-we-get-rid-of-algebra_5418/)

5 <http://www.achieve.org/files/MathWorks-Equity.pdf>

6 <http://www.npr.org/blogs/thetwo-way/2014/05/06/310181788/nations-report-card-shows-stagnant-scores-for-reading-math>

7 <http://www.achieve.org/files/Achieve-MathWorks-Fact%20Sheet%20International.pdf>

8 <http://www.nytimes.com/2014/07/27/magazine/why-do-americans-stink-at-math.html>

9 <http://www.theatlantic.com/education/archive/2013/11/the-stereotypes-that-distort-how-americans-teach-and-learn-math/281303/>

10 <http://www.businessweek.com/news/2014-08-14/first-female-winner-of-fields-medal-dreamed-of-writing>

11 Project Tomorrow, Speak Up 2013 National Research Project Findings

12 <http://www.bls.gov/careeroutlook/2014/spring/art01.pdf>