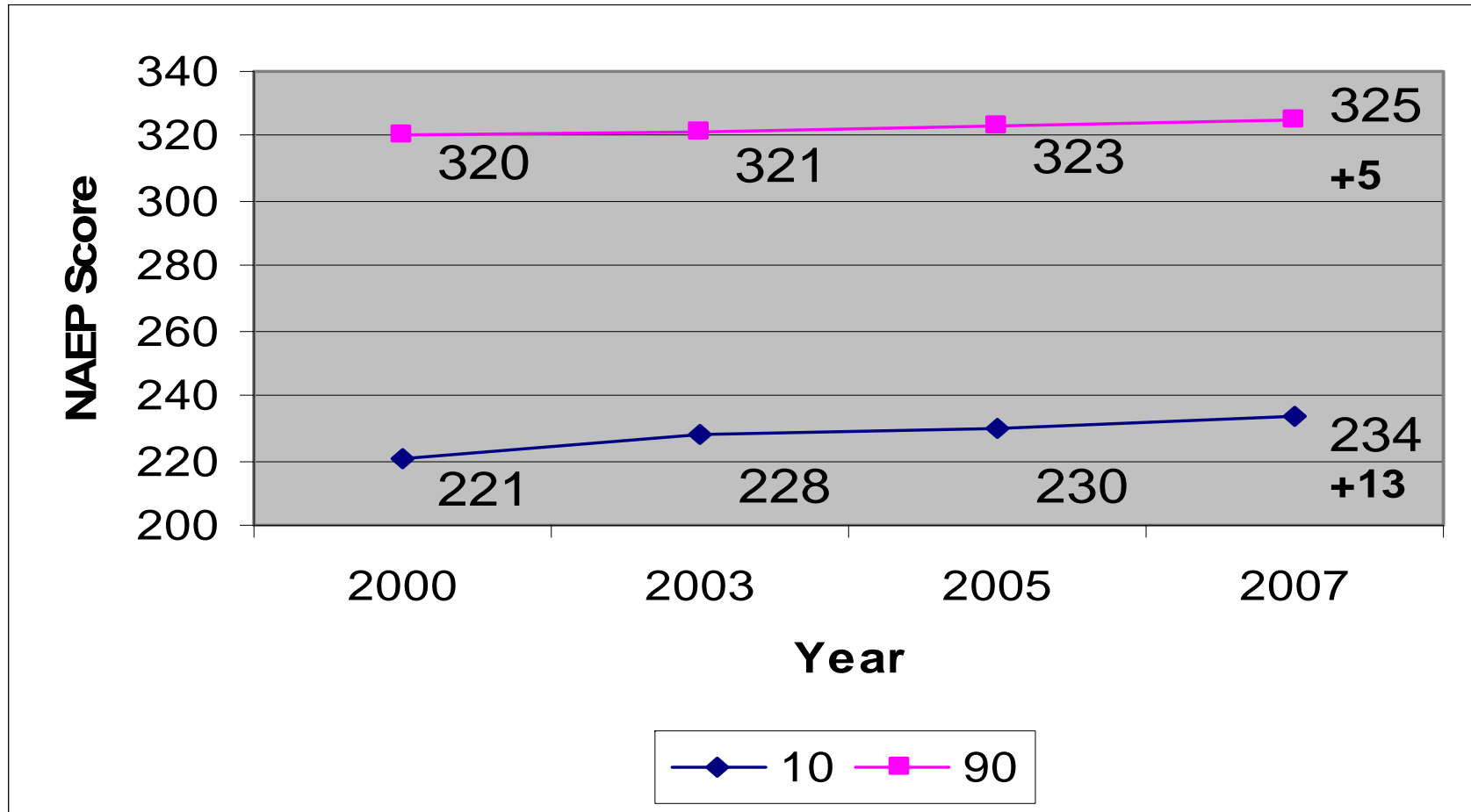# High Achieving Students in the Era of NCLB: An Analysis of NAEP Data

Tom Loveless
The Brookings Institution
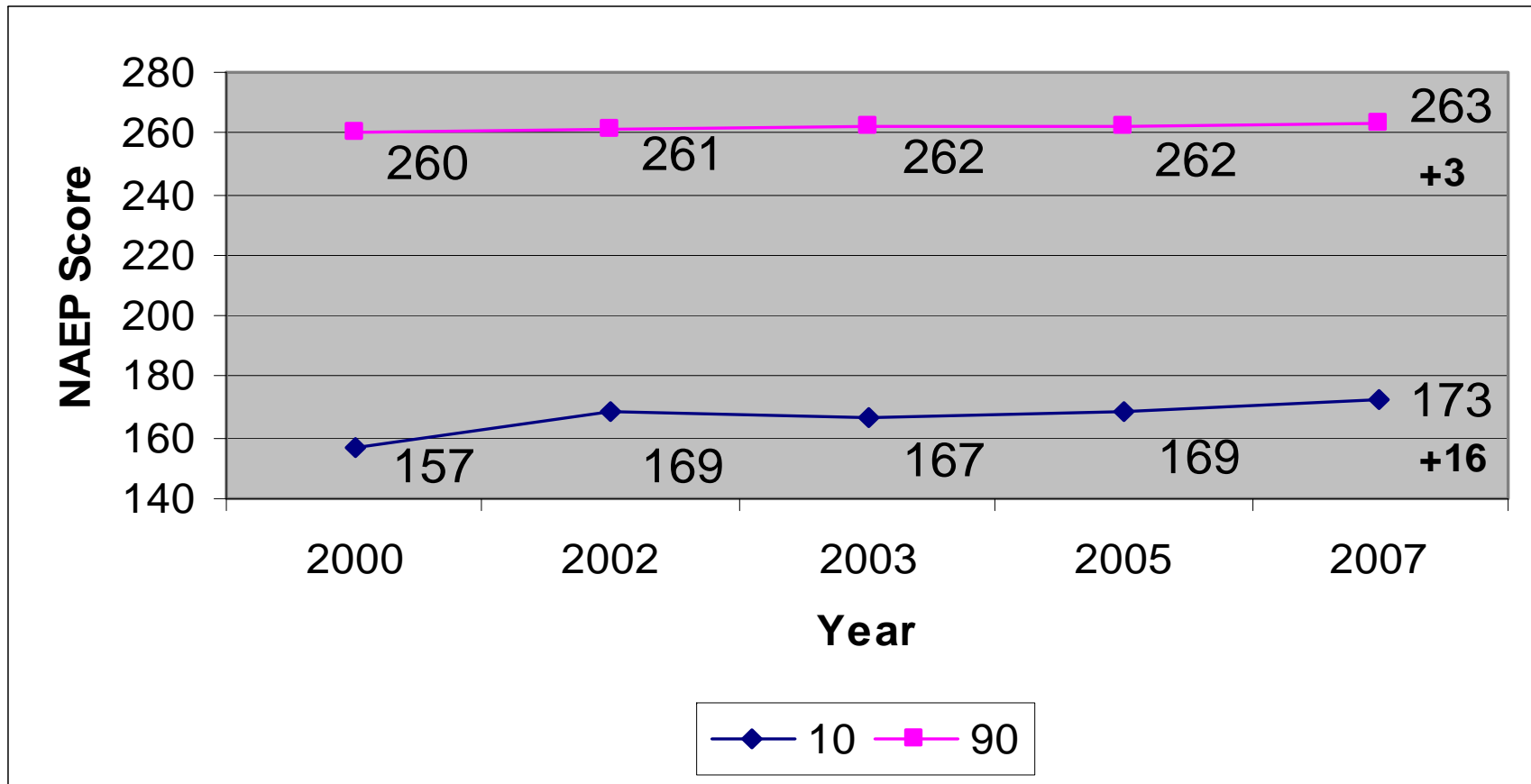
Presented on June 25, 2008
at the Thomas B.Fordham Institute

# Figure 1a Math 4$^{th}$ Grade NAEP scores, 2000-2007 (90$^{th}$ and 10$^{th}$ percentiles) *on page 19
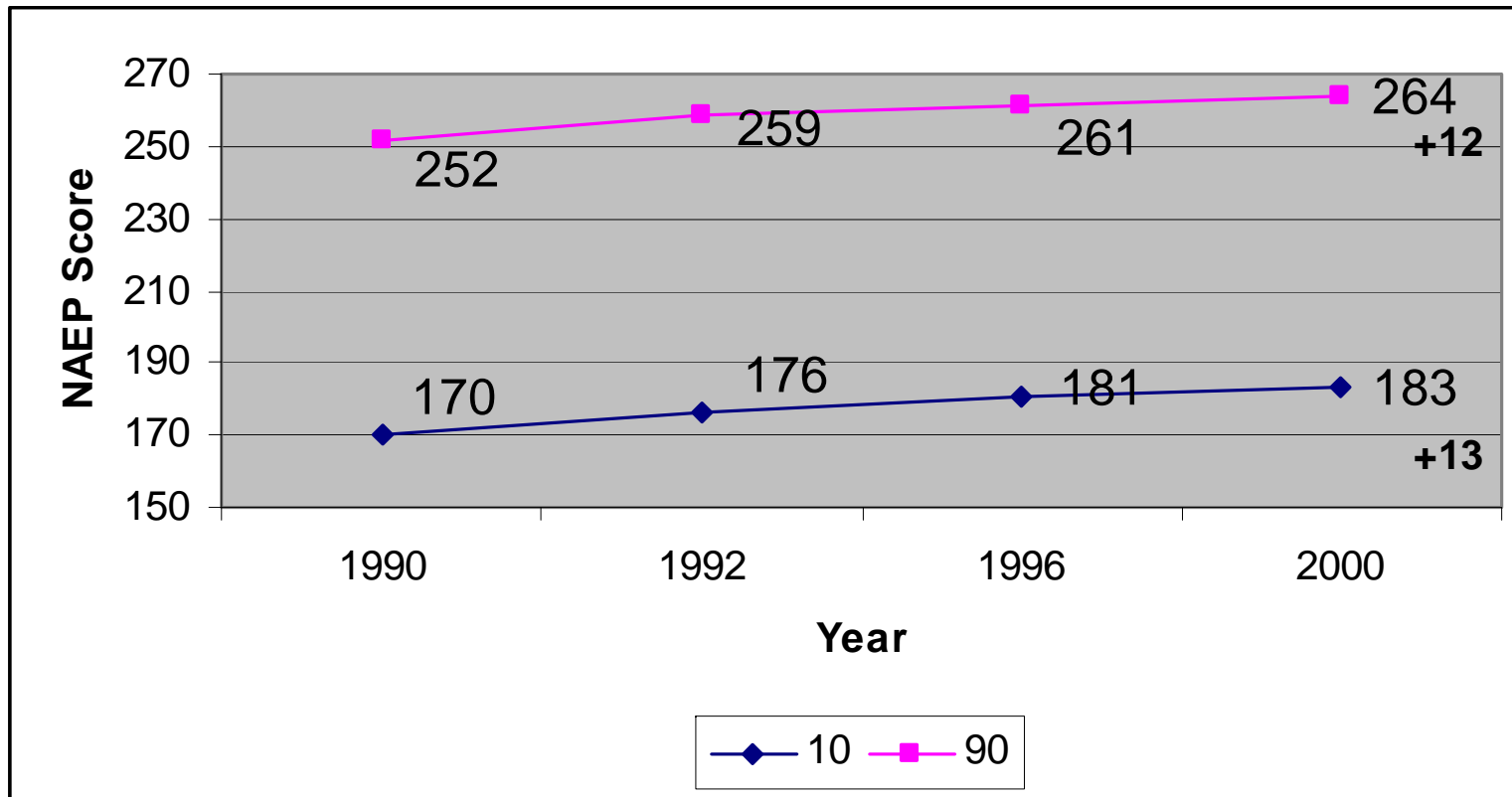


Note: National means: 2000 =274 and 2007= 281, a change of +7
Source: Main NAEP data explorer, National Public sample

Figure 1b Reading 4th Grade NAEP scores, 2000-2007
(90th and 10th percentiles) *on page 19



Note: National means: 2000= 215, 2007=222, a change of +7
Source: Main NAEP data explorer, National Public sample

Figure 2a Math 4th Grade NAEP scores, 1990-2000
(90th  and 10th percentiles) *on page 21



Note: National means: 1990= 213, 2000 = 225, a change of +12
Source: Main NAEP data explorer, National Public sample

Figure 2b Reading 4th Grade NAEP scores, 1992-2000
(90th and 10th percentiles) *on page 21



Note: National means: 1992 = 217, 2000= 215, a change of -2
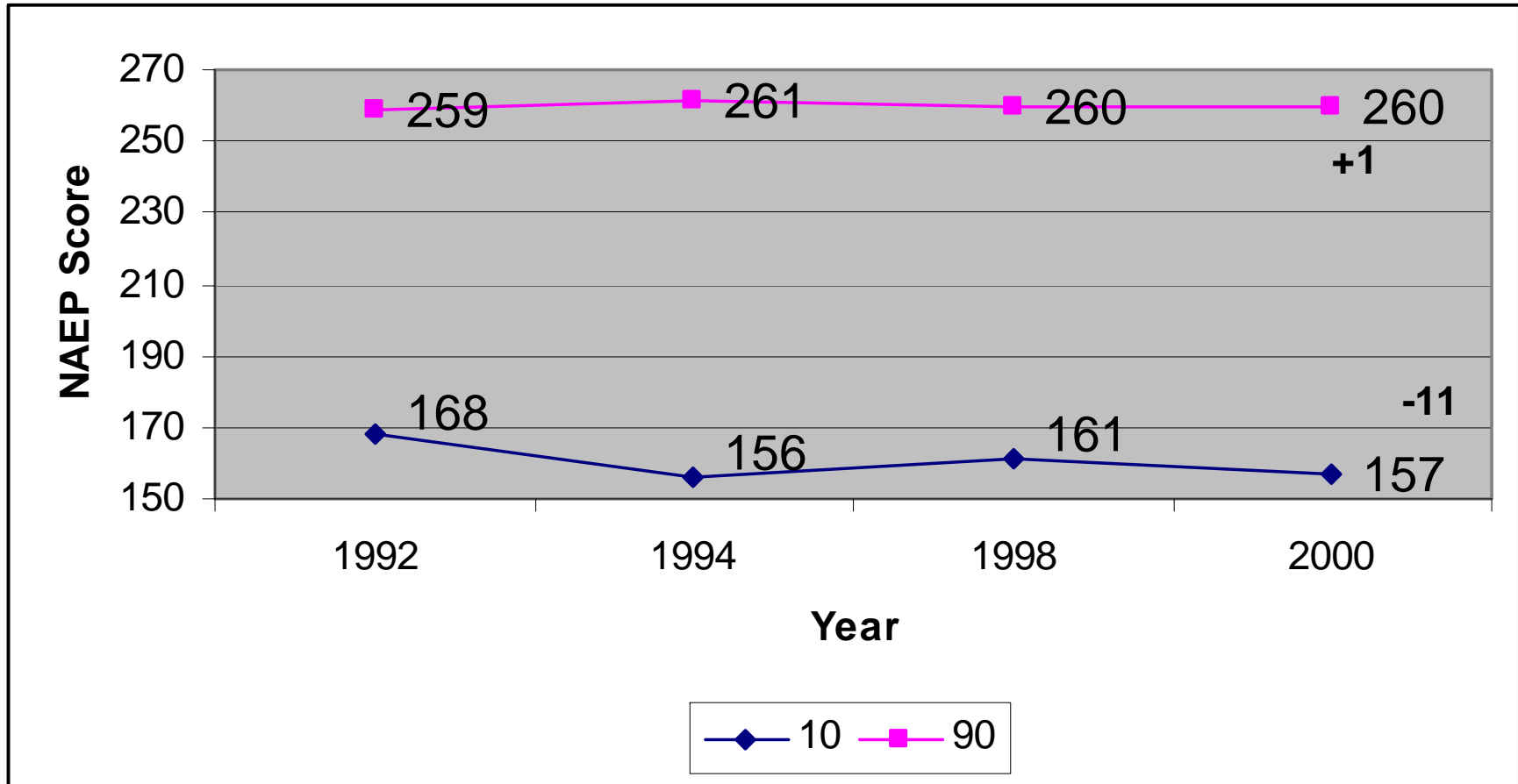Source: Main NAEP data explorer, National Public sample

Table 1: Annual Gains by 10$^{th}$ percentile pre and post NCLB *on page 22

| Subject | Pre-NCLB | Post-NCLB |
|---|---|---|
| 4 math | 1.3 | 2.6 |
| 4 reading | -1.4 | 2.3 |
| 8 math | 0.7 | 1.9 |
| 8 reading | 0.8 | -0.6 |
| Average of grade/subject combinations | 0.35 | 1.55 |

Average annual gains found by dividing gain over entire interval by number of years in interval.
All gains are measured in NAEP scale score points.

Table 2: Annual Gains by 90th percentile pre and post NCLB *on page 22

| Subject | Pre-NCLB | Post-NCLB |
|---|---|---|
| 4 math | 1.2 | 1.4 |
| 4 reading | 0.1 | 0.4 |
| 8 math | 1.3 | 0.7 |
| 8 reading | 0.1 | 0.0 |
| Average of grade/subject combinations | 0.675 | 0.625 |

Average annual gains found by dividing gain over entire interval by number of years in interval.
All gains are measured in NAEP scale score points.

Table 4  Comparing 90th and 10th Percentile Gains Using State NAEP Data (PRE- NCLB)
*on page 26

1996-2000 4th Math

|  | 90th | 10th | Change in Gap |
|---|---|---|---|
| Accountability n=16 | 1.6 | 5.7 | -4.1 |
| Non-accountability n= 20 | 2.5 | 1.9 | +0.6 |
| Overall n=36 | 1.8 | 4.5 | -2.7 |

1998-2002 4th Reading

|  | 90th | 10th | Change in Gap |
|---|---|---|---|
| Accountability n=16 | 2.2 | 8.8 | -6.6 |
| Non-accountability n=21 | 2.6 | 6.9 | -4.3 |
| Overall n=37 | 2.3 | 8.2 | -5.9 |

Table 4 Comparing 90th and 10th Percentile Gains Using State NAEP Data (PRE- NCLB)
*on page 26

1996-2000 8th Math

|  | 90th | 10th | Change in Gap |
|---|---|---|---|
| Accountability n=15 | 2.5 | .3 | 2.2 |
| Non-accountability n=19 | 2.1 | -1.3 | 3.4 |
| Overall n=34 | 2.3 | -.2 | 2.5 |

1998-2002 8th Reading

|  | 90th | 10th | Change in Gap |
|---|---|---|---|
| Accountability n=16 | 1.5 | -.2 | 1.7 |
| Non-accountability n=18 | 1.9 | 1.9 | 0.0 |
| Overall n=34 | 1.6 | .3 | 1.9 |

Note: All data are in scale score points.
Source: Author's calculations from main NAEP data explorer, State NAEP sample.

Table 10: Student Characteristics: NCLB-HA and Comparison Groups *on page 33

|  | NCLB-HA | 90th Percentile | National Average | 10th Percentile |
|---|---|---|---|---|
| Eligible Free Lunch | 70.5 | 10.2 | 36.1 | 66.5 |
| White | 39.6 | 81.5 | 61.1 | 28.4 |
| Black | 17.8 | 2.6 | 16.1 | 36.9 |
| Hispanic | 30.5 | 4.4 | 16.2 | 29.8 |
| Mother is College Grad | 41.1 | 64.4 | 36.9 | 19.6 |

Table 11: Course taking in 8$^{th}$ grade math: NCLB-HA and Comparison Groups *on page 33

|  | NCLB-HA | 90$^{th}$ Percentile | National Average | 10$^{th}$ Percentile |
|---|---|---|---|---|
| Geometry | 8.6 | 11.1 | 3.8 | 5.0 |
| Algebra 2 | 3.9 | 4.6 | 3.3 | 6.2 |
| Algebra 1 | 51.7 | 57.3 | 29.5 | 17.4 |
| 2 year Algebra | 5.6 | 5.5 | 4.6 | 4.6 |
| Pre-algebra | 13.1 | 9.4 | 26.4 | 19.2 |
| General math | 10.8 | 6.8 | 24.4 | 27.1 |
| Other | 2.5 | 1.8 | 4.8 | 14.8 |
| Integrated math | 2.9 | 2.9 | 1.3 | 1.1 |

Table 13: School Characteristics: NCLB-HA and Comparison Groups *on page 34

| | NCLB-HA | 90th Percentile | National Average | 10th Percentile |
|---|---|---|---|---|
| School enrollment | 863 | 815 | 819.7 | 885.0 |
| Private school enrollment | 8.6 | 14.7 | 8.8 | 3.3 |
| > 50% eligible lunch | 33.3 | 10.6 | 31.6 | 59.1 |
| > 50% Title 1 | 13.8 | 3.8 | 14.1 | 29.7 |
| No kids in algebra 1 | 13.3 | 9.2 | 13.1 | 16.5 |
| No kids in gifted | 20.1 | 26.2 | 22.8 | 19.5 |
| 8th gr. math tracked | 71.3 | 78.3 | 70.9 | 65.7 |

Table 14: Teacher Characteristics: NCLB-HA and Comparison Groups *on page 34

|  | NCLB-HA | 90th Percentile | National Average | 10th Percentile |
|---|---|---|---|---|
| Teaching expr. (yrs) | 14.3 | 15.2 | 13.5 | 11.8 |
| 0-4 years experience | 20.3 | 16.1 | 22.5 | 29.1 |
| Regular teaching cert. | 84.2 | 86.6 | 82.5 | 75.8 |
| Major/minor in math | 64.5 | 64.2 | 55.8 | 44.9 |
| Teaches remedial math | 20.4 | 17.1 | 24.5 | 38.3 |
| Teaches general math | 46.0 | 39.5 | 51.0 | 57.7 |