

RESULTANT VECTORS

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Percentage of residents for metro areas with college degrees:

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|------------------------------|------------------------|-------------------------|
| (1) Washington DC...46.8 % | (5) Raleigh NC 41.0 % | (9) New York City 36 % |
| (2) Stamford, Conn...44.0 % | (6) Austin TX 39.4 % | (10) Chicago 34.0 % |
| (3) San Francisco.....43.4 % | (7) Denver 38.2 % | (11) Dallas 31.1 % |
| (4) Boston, Mass.....43.0 % | (8) Minneapolis 37.9 % | (12) Los Angeles 31.0 % |

INTRODUCTION:

Vector A (Austin to Raleigh)
= 1200 miles @ 30° N of East

Vector B (Raleigh to Boston)
= 800 miles @ 53° N of east.

Vector C (Boston to San Francisco) = 3000 miles @ 15° South of West

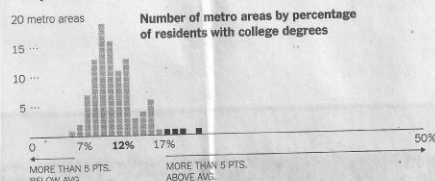
QUESTION: Find resultant displacement (magnitude and direction) from Austin to San Francisco

ANSWER: 1454 MILES @ 18.6° North of West

Growing Education Divide in Cities

College graduates are more unevenly distributed in the top 100 metropolitan areas now than they were four decades ago. More adults have bachelor's degrees, but the difference in educational attainment between the most and least educated metro areas is double what it was in 1970.

In 1970, 12% of adults had college degrees in U.S. metro areas. Nearly all metro areas were within 5 percentage points of the average.



In 2010, 32% of adults had college degrees in U.S. metro areas. Just half of metro areas were within 5 percentage points of the average.

