

NEC America Oregon Plant

**Employees with Disabilities
Value Added Analysis**

July 1987, January 1990

Presented to:

**Dr. S. Nonaka, H. Nagai, T. Weyer,
G. Bennett, J. Nguyen, J. Oorthuys**

Developed by:

**Dr. Larry Rhodes
Dennis Sadow**

**Specialized Training Program
University of Oregon
Eugene, Oregon 97403**



UNIVERSITY OF OREGON

Dr. Nonaka, Vice President and General Manager
NEC America, Incorporated, Oregon Plant
3100 NE Shute Road
Hillsboro, Oregon

5/14/90

Dear Dr. Nonaka:

We are very pleased to present you with our findings regarding employees with disabilities employed at NEC America, Inc., Oregon Plant. We are proud of our research affiliation with NEC America, Oregon Plant and appreciate the contribution your company is making to our knowledge of employing people with disabilities.

The following report presents factors associated with the income produced for NEC America by employees with disabilities. It is a significant report for researchers, human service professionals and industrial human resource professionals because it is the first report of its kind to document the income produced by employees with disabilities for their companies. The data encompasses two years of rigorous data collection by component preparation employees and the Oregon Employment Services Corporation which has been supporting the employees with disabilities. The value added data representing the income produced per employee was derived by matching NEC America Inc. with similar companies whose financial profiles were reported by the American Electronics Association's *1989-90 Operating Ratios Survey*.

Dr. W.E. Deming's first of fourteen points for top management¹ is to "create a constancy of purpose toward improvement of product and service..". With this in mind we are extremely impressed with the constant growth demonstrated by the employees with disabilities in critical employment measures such as income produced, hours worked and productivity. Oregon Plant is to be congratulated for the fine work done by

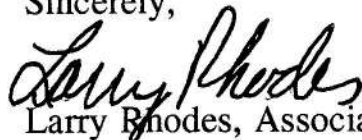
¹Deming, W. Edwards Out of the Crisis, 1986

its employees both with and without disabilities. It has been an impressive team accomplishment.

We would be negligent if we did not mention the importance of Mr Oorthuys in making this research possible. We also appreciate the time spent on critical review of this work by Mr Weyer and Mr Bennett.

Thank you once again for your company's assistance and cooperation in research regarding employees with disabilities. We look forward to future research activities. Please contact us if we can be of assistance.

Sincerely,

A handwritten signature in cursive script, appearing to read "Larry Rhodes".

Larry Rhodes, Associate Director

A handwritten signature in cursive script, appearing to read "Dennis Sandow".

Dennis Sandow, Research Assistant

Group Performance

July 1987 - January 1990

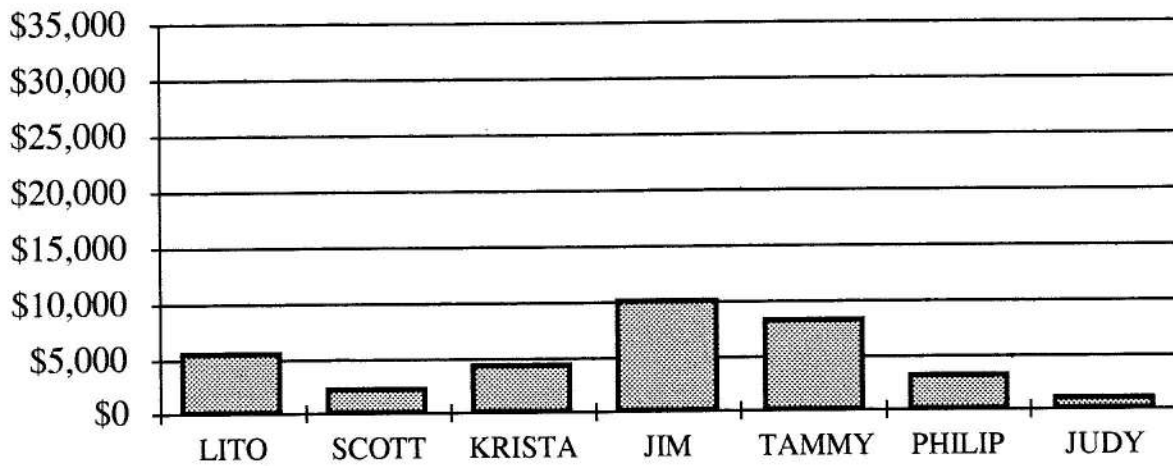
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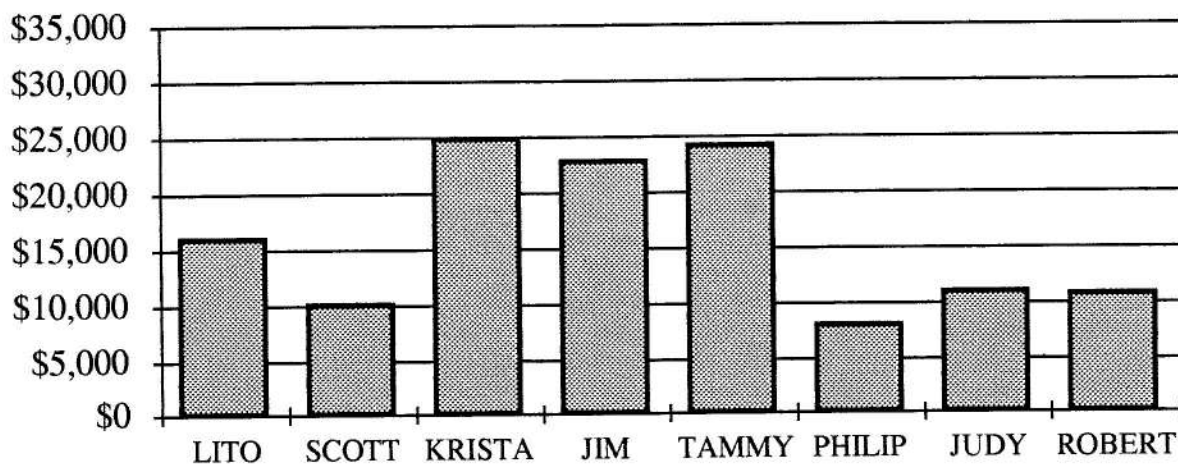
Value Added Summary

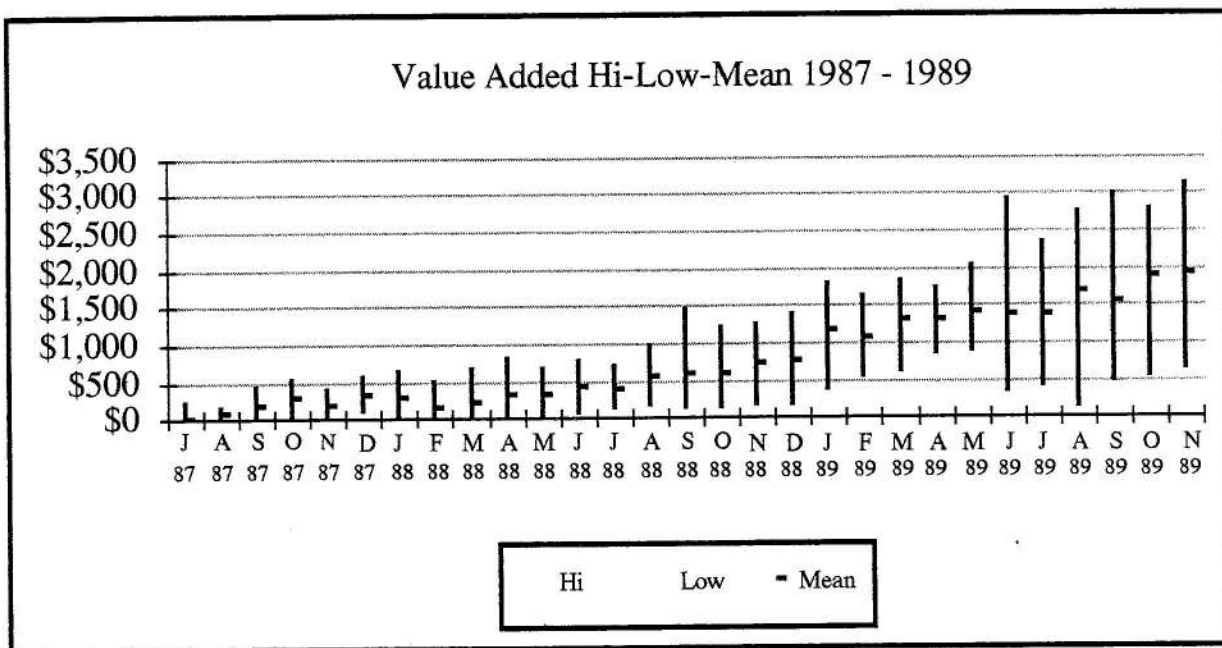
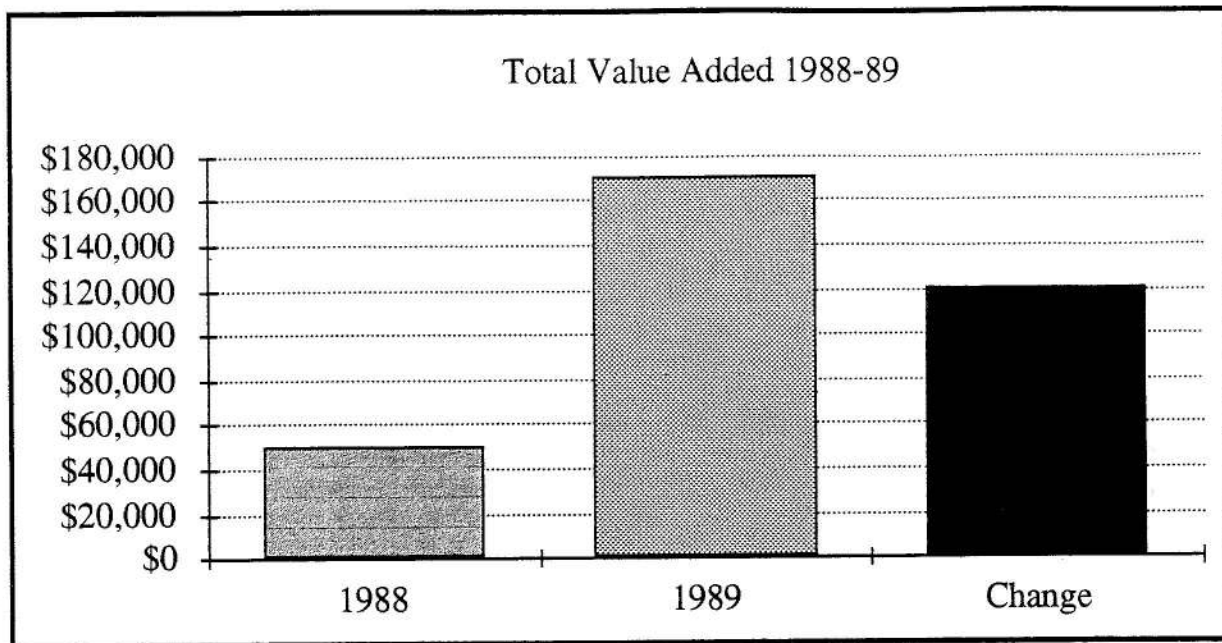
Def. Value added data are summaries include total value added for each employee for 1988 and 1989, total value added for all employees with disabilities for 1988 and 1989, and the high, low and mean value added for all employees with disabilities from 1987 - 1989.

1988 TOTAL VALUE ADDED PER EMPLOYEE



1989 TOTAL VALUE ADDED PER EMPLOYEE





Individual Performance

July 1987 - January 1990

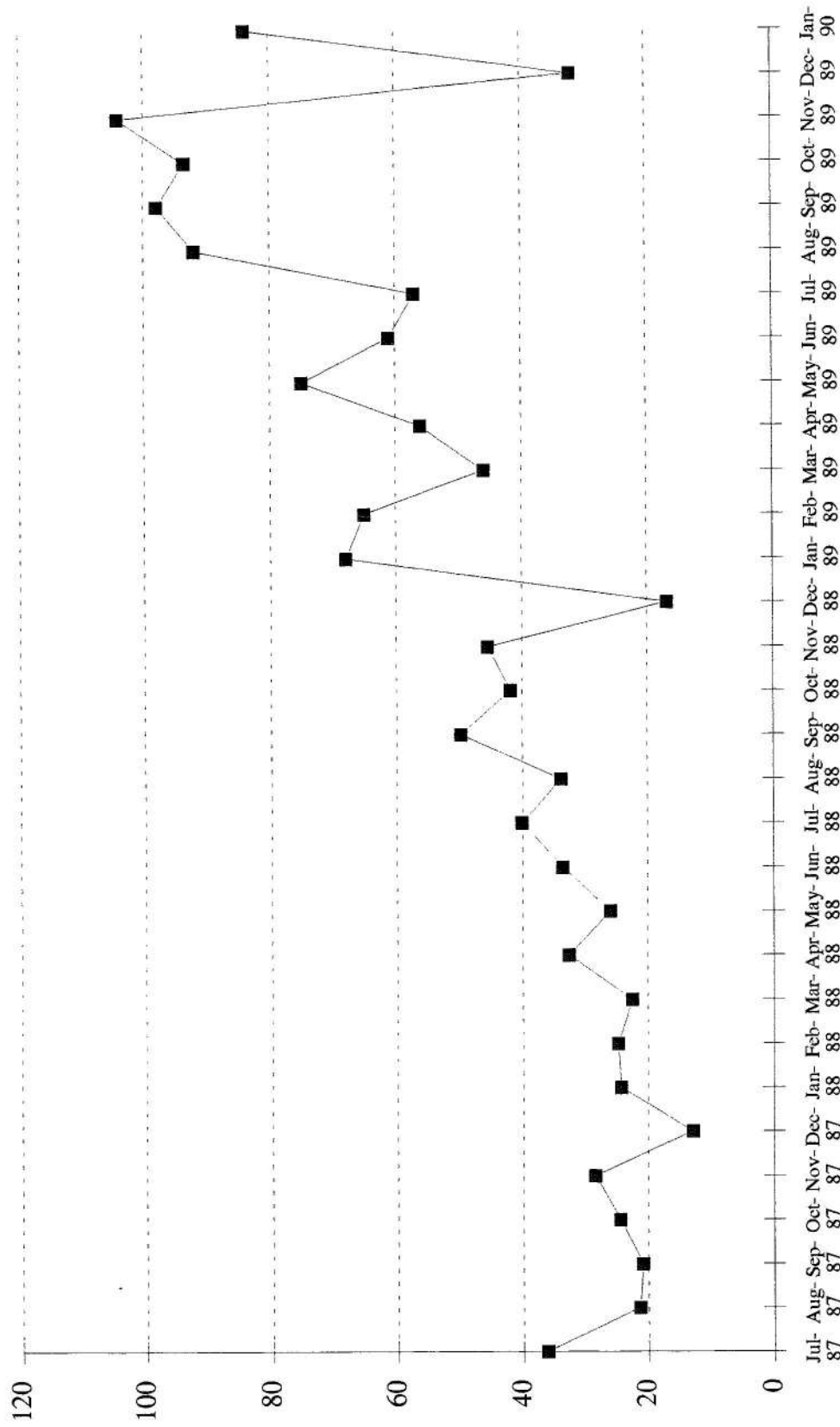
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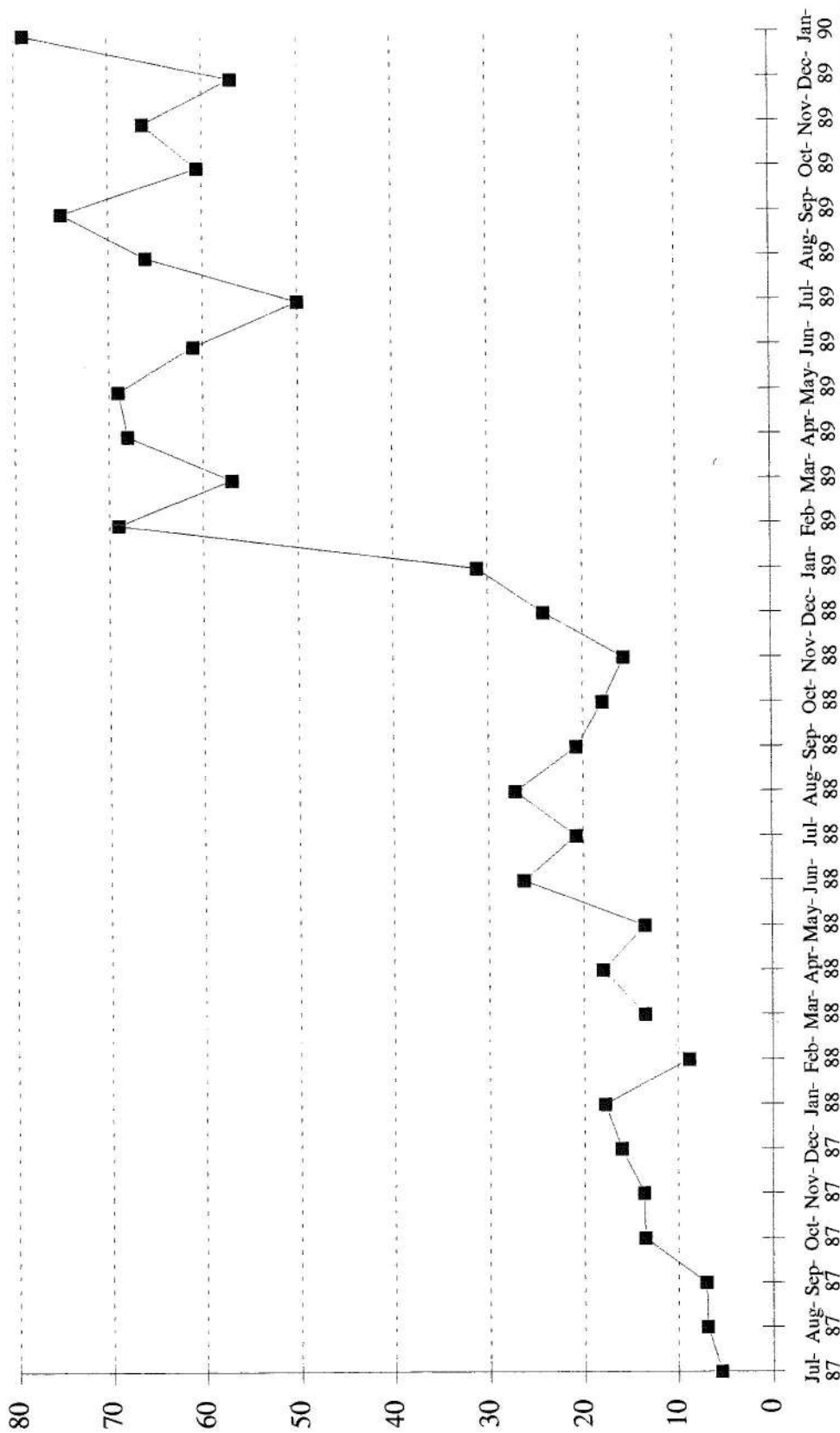
Hours Worked Per Month

Def. Total time spent working per month as measured by labor cards and reported by production software. Full time employees typically work 176 hours per month (8 hours per day multiplied by 22 days per month).

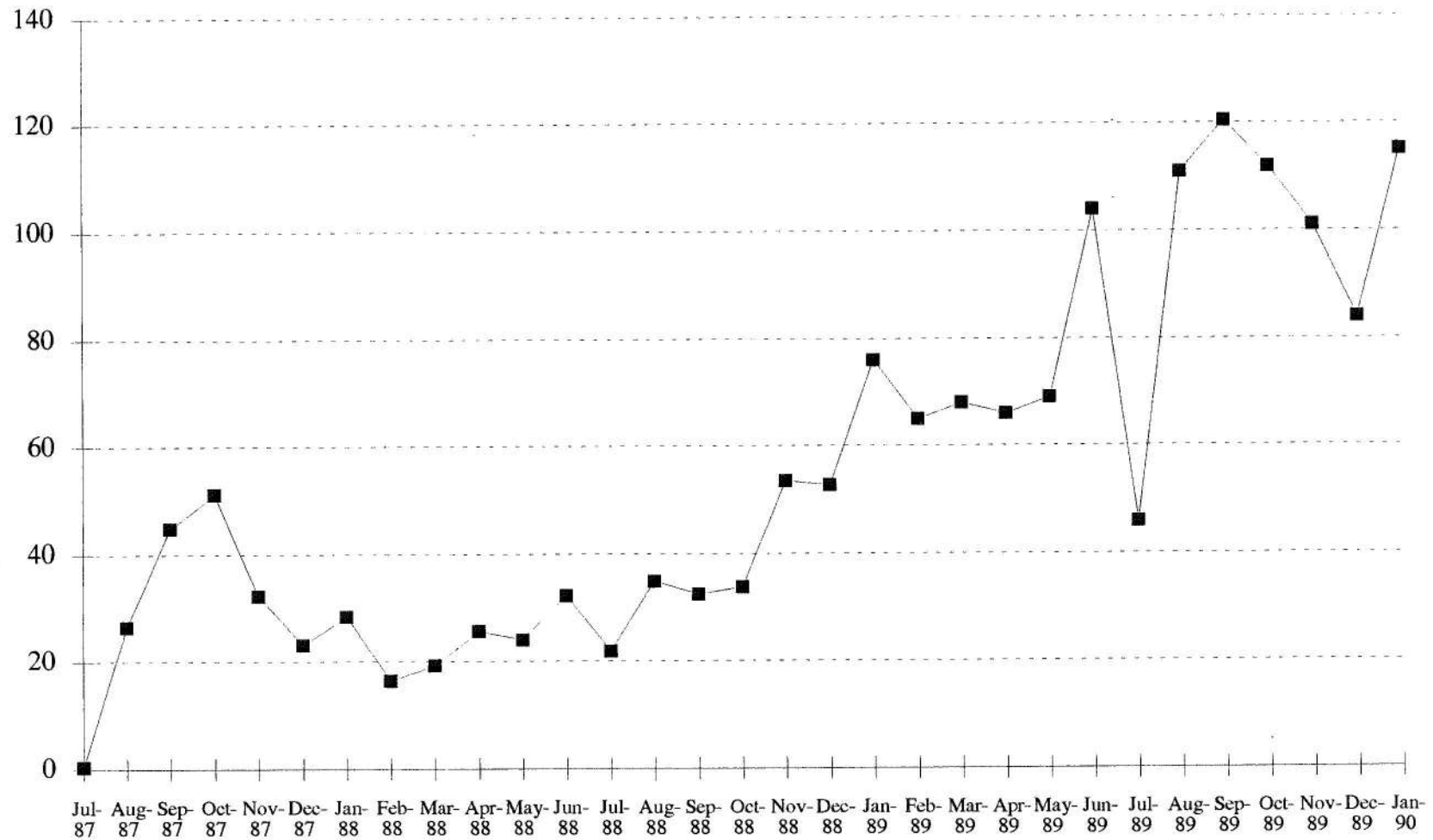
Lito's Hours Worked Per Month



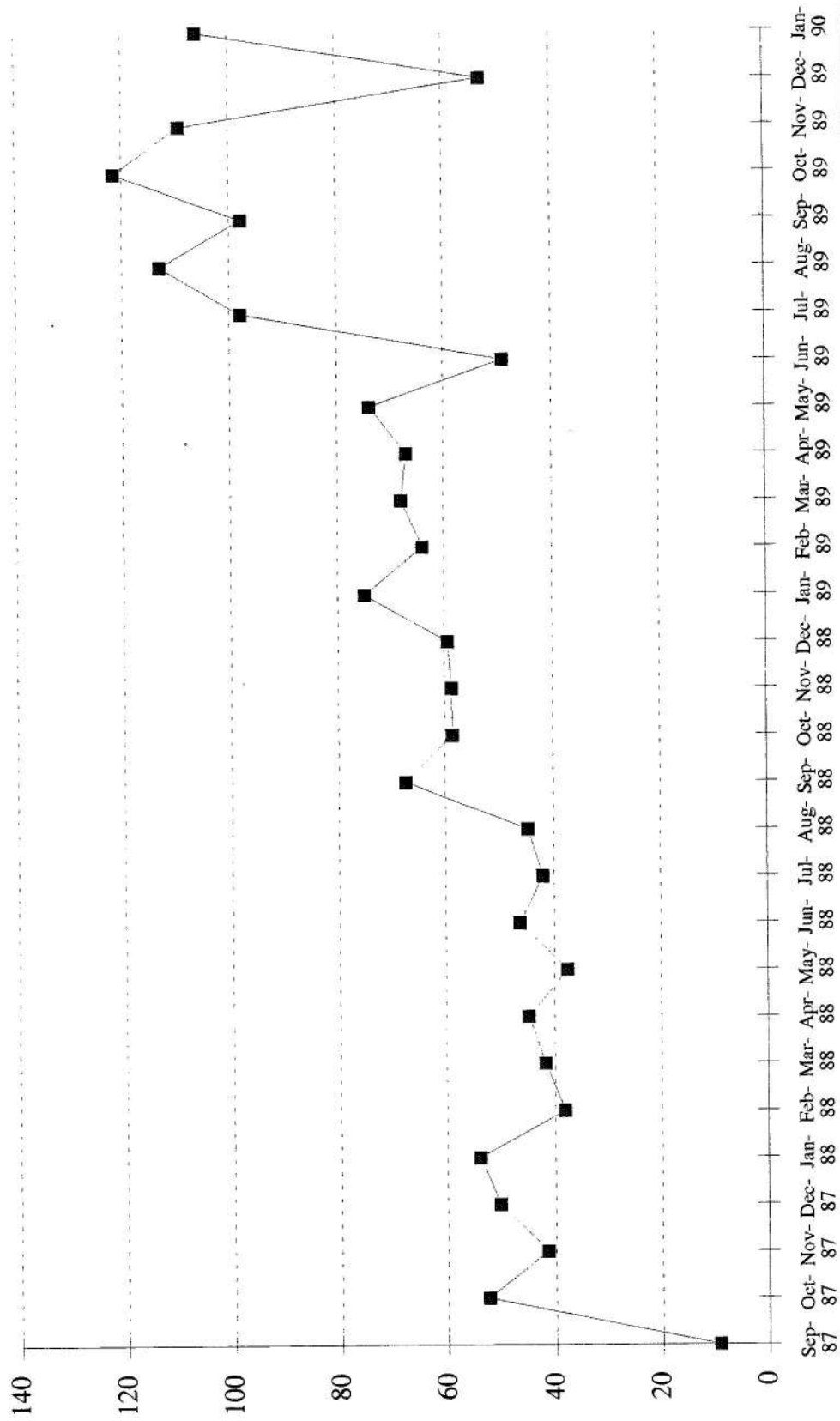
Scott's Hours Worked Per Month



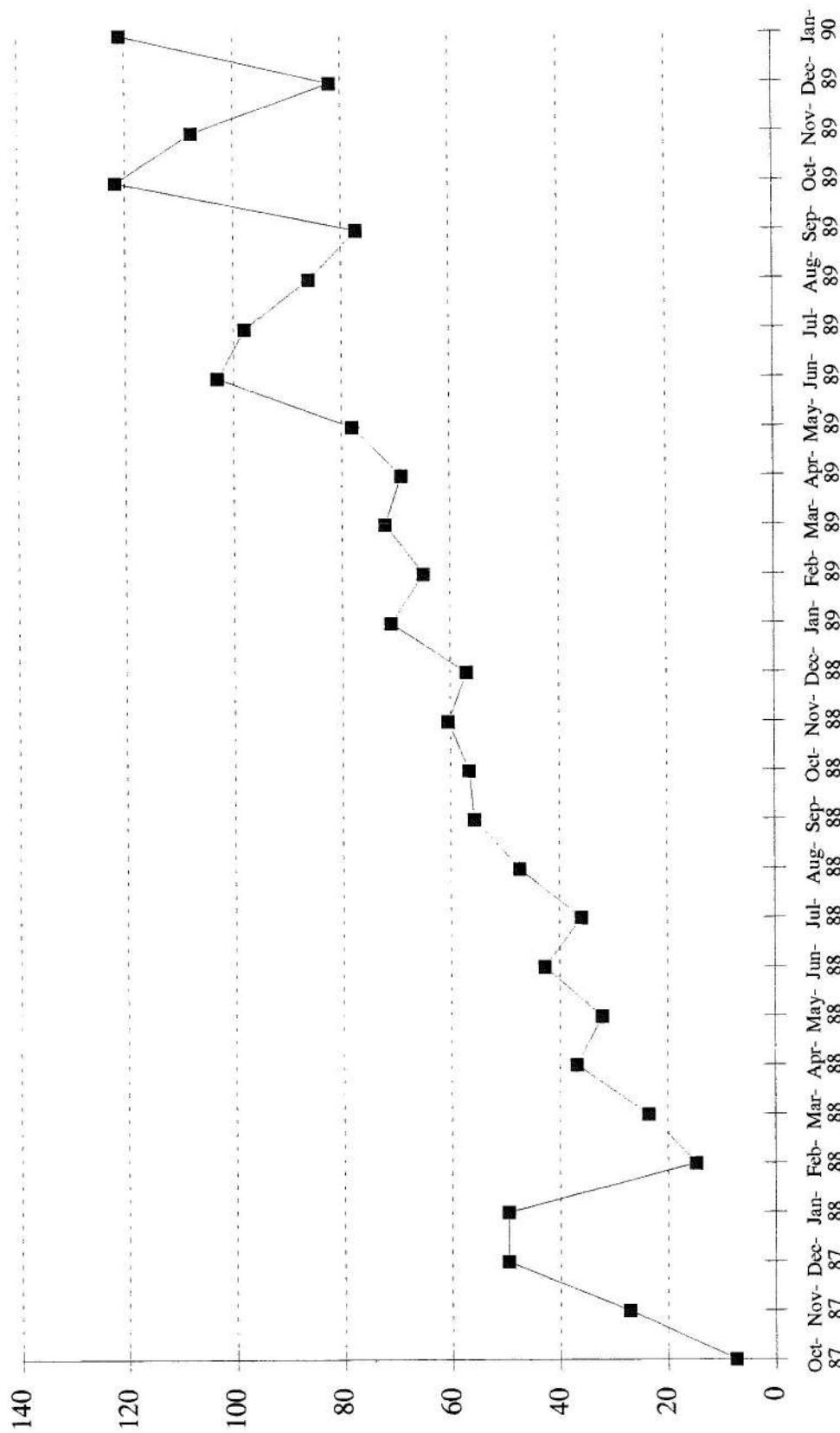
Krista's Hours Worked Per Month



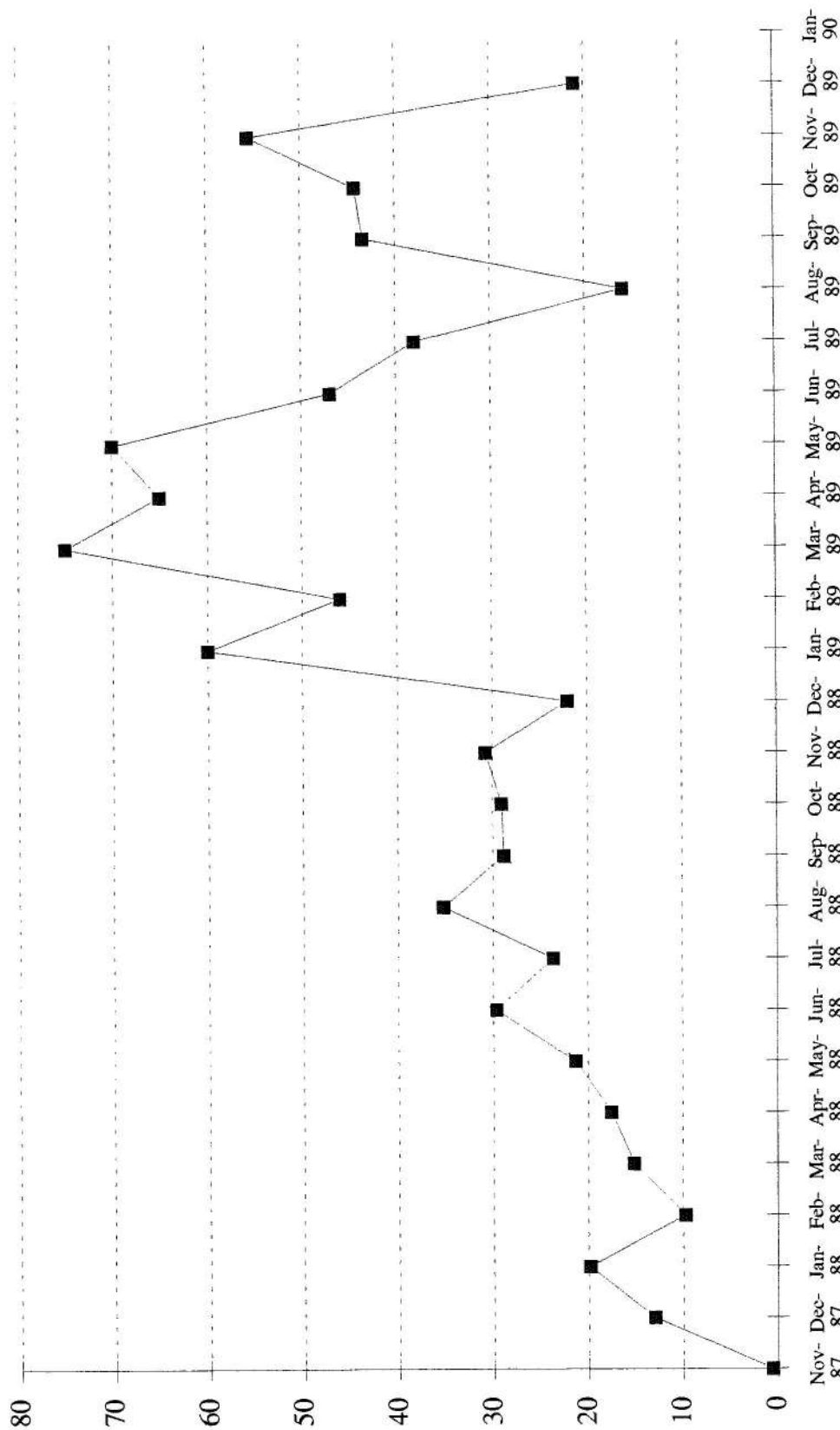
Jim's Hours Worked Per Month



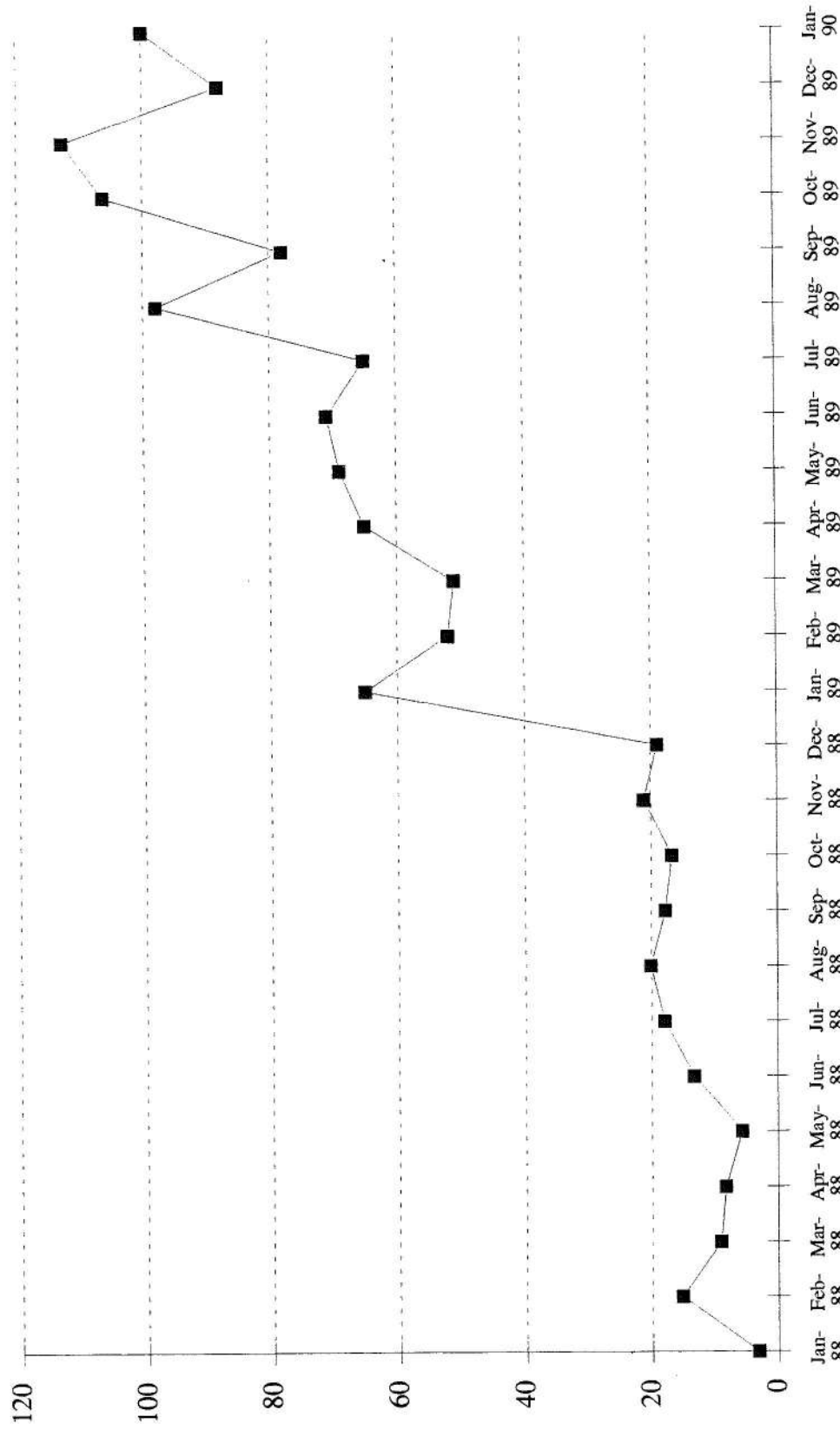
Tammy's Hours Worked Per Month



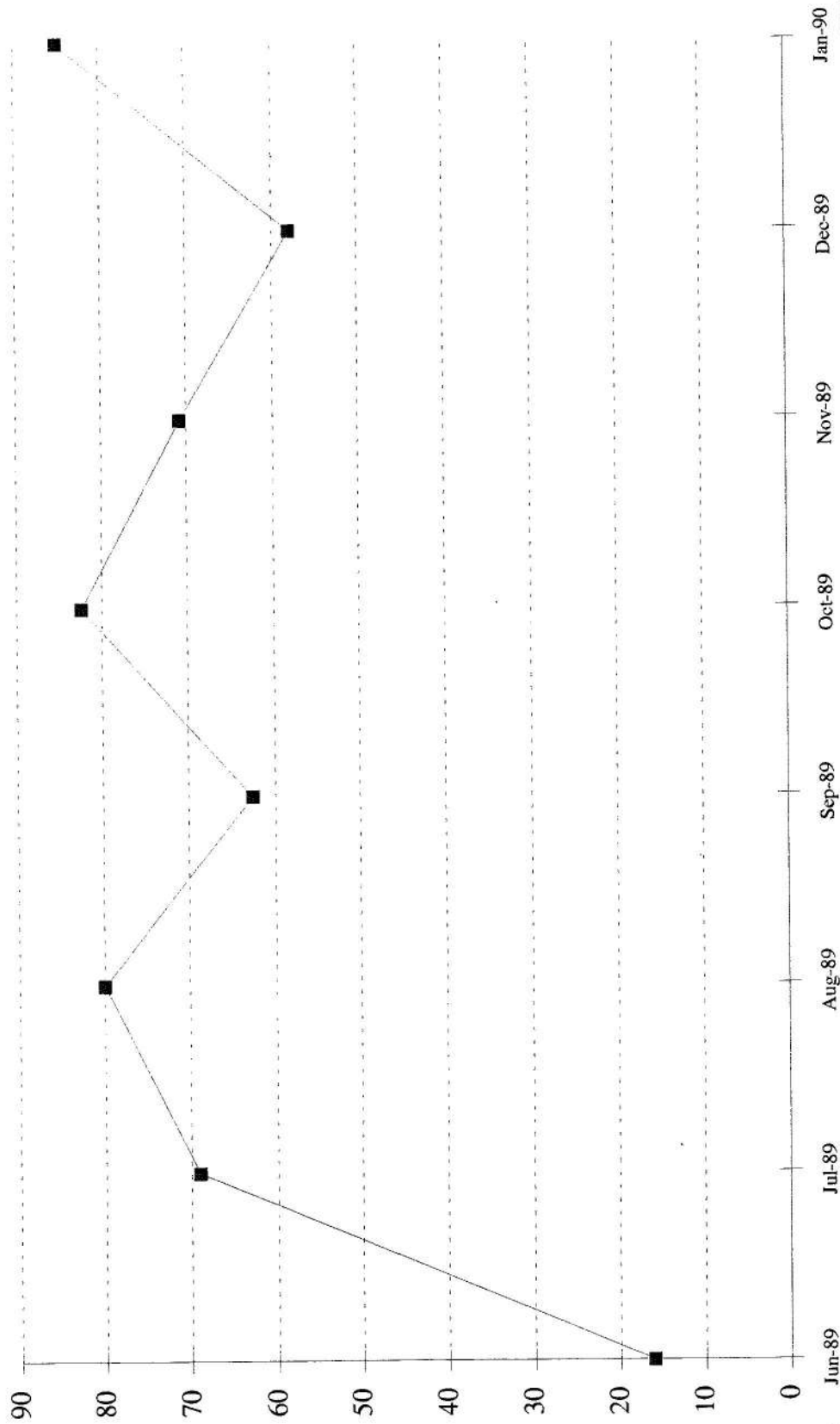
Philip's Hours Worked Per Month



Judy's Hours Worked Per Month



Robert's Hours Worked Per Month



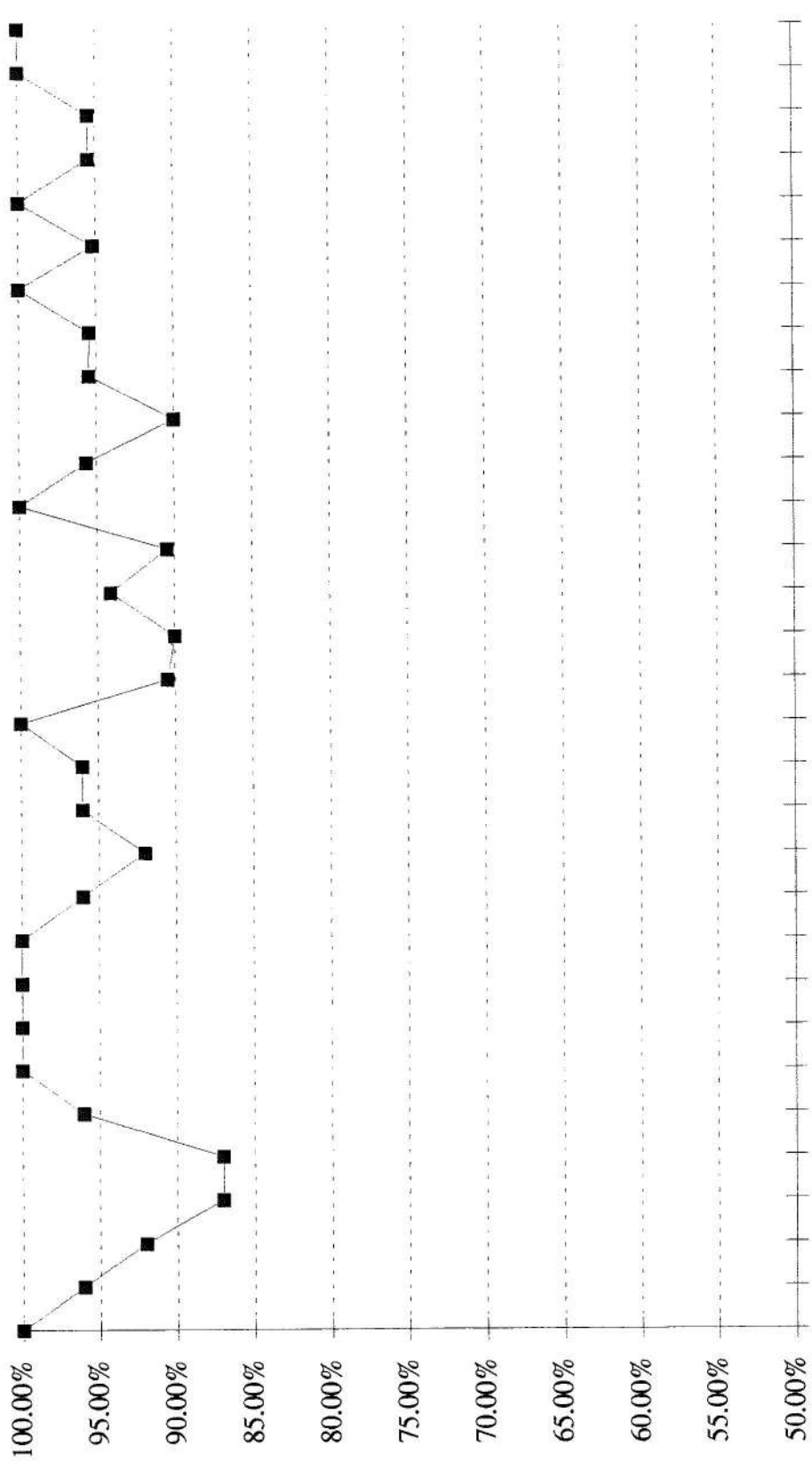
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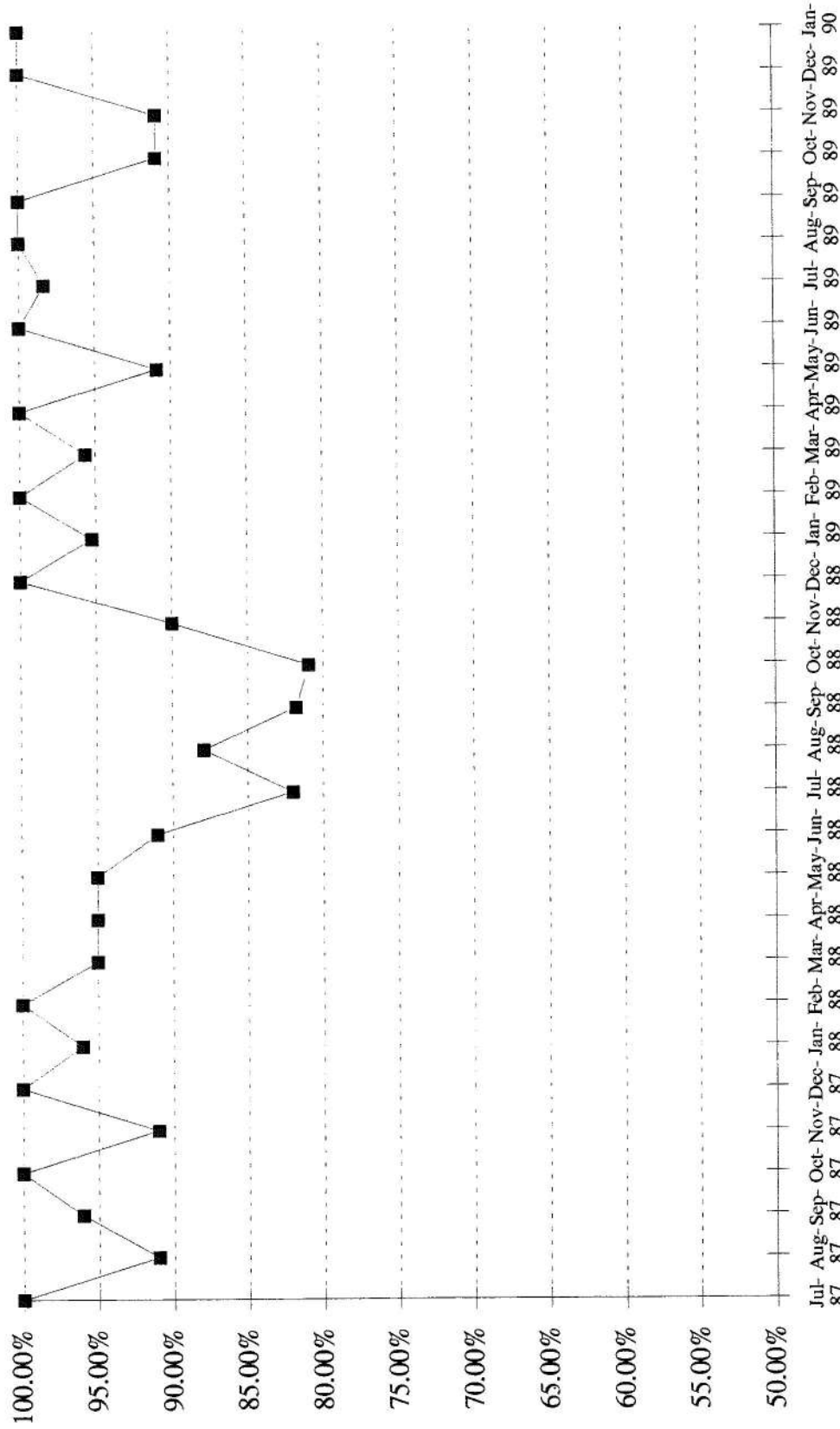
Attendance Rate

Def. The number of days worked by the employee with disabilities is divided by the number of working days per month. NEC Oregon Plant requires a 95% attendance rate.

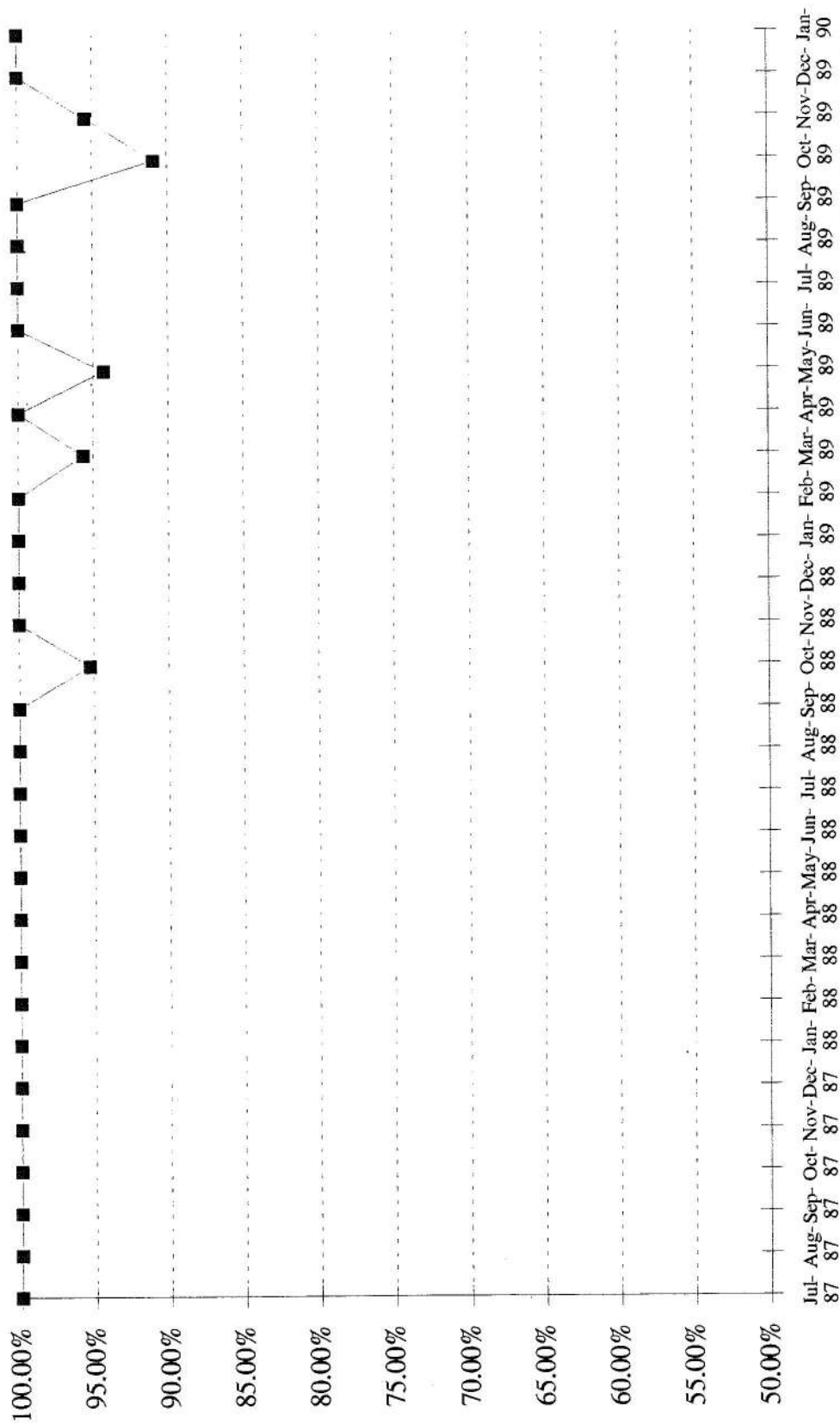
Lito's Attendance Rate



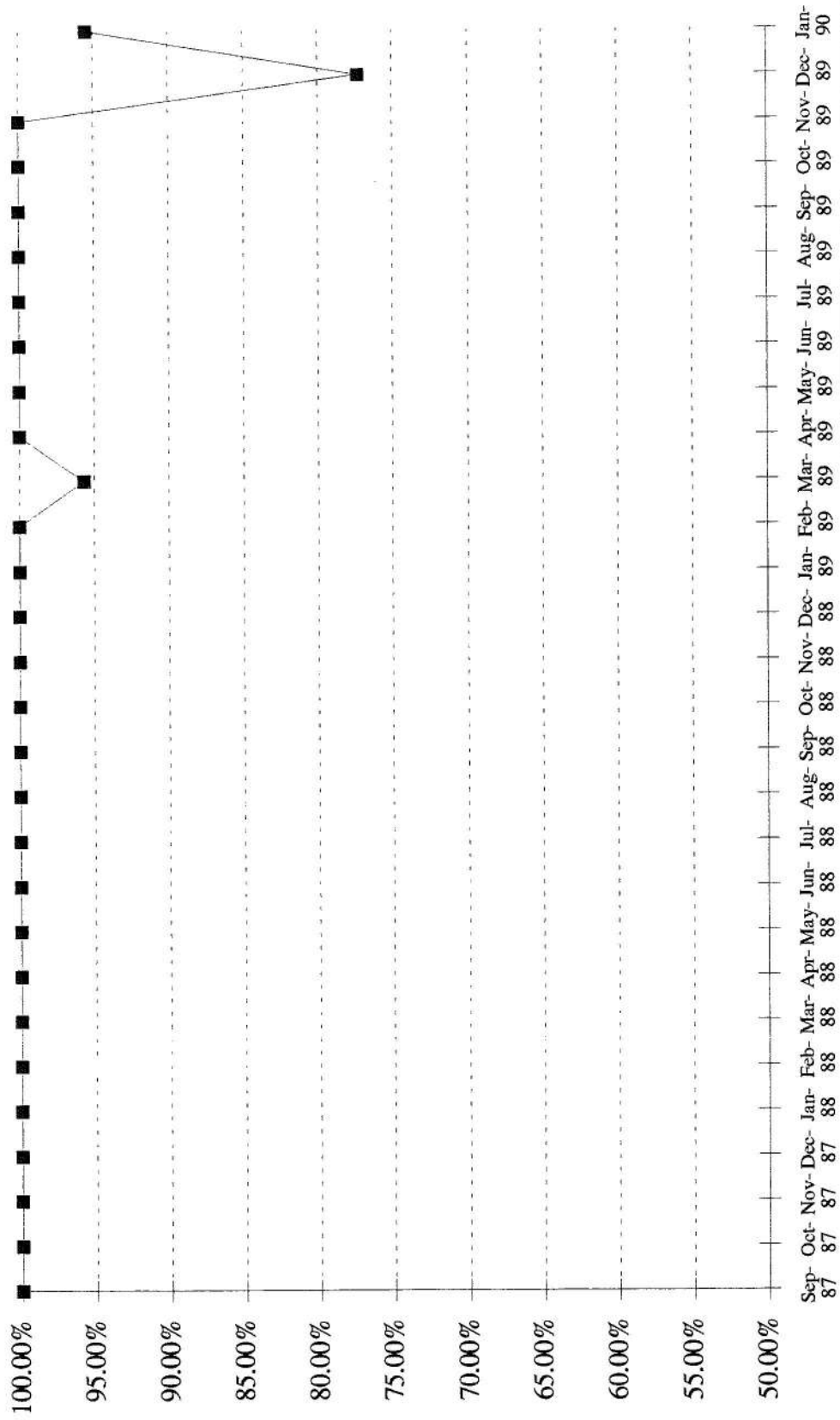
Scott's Attendance Rate



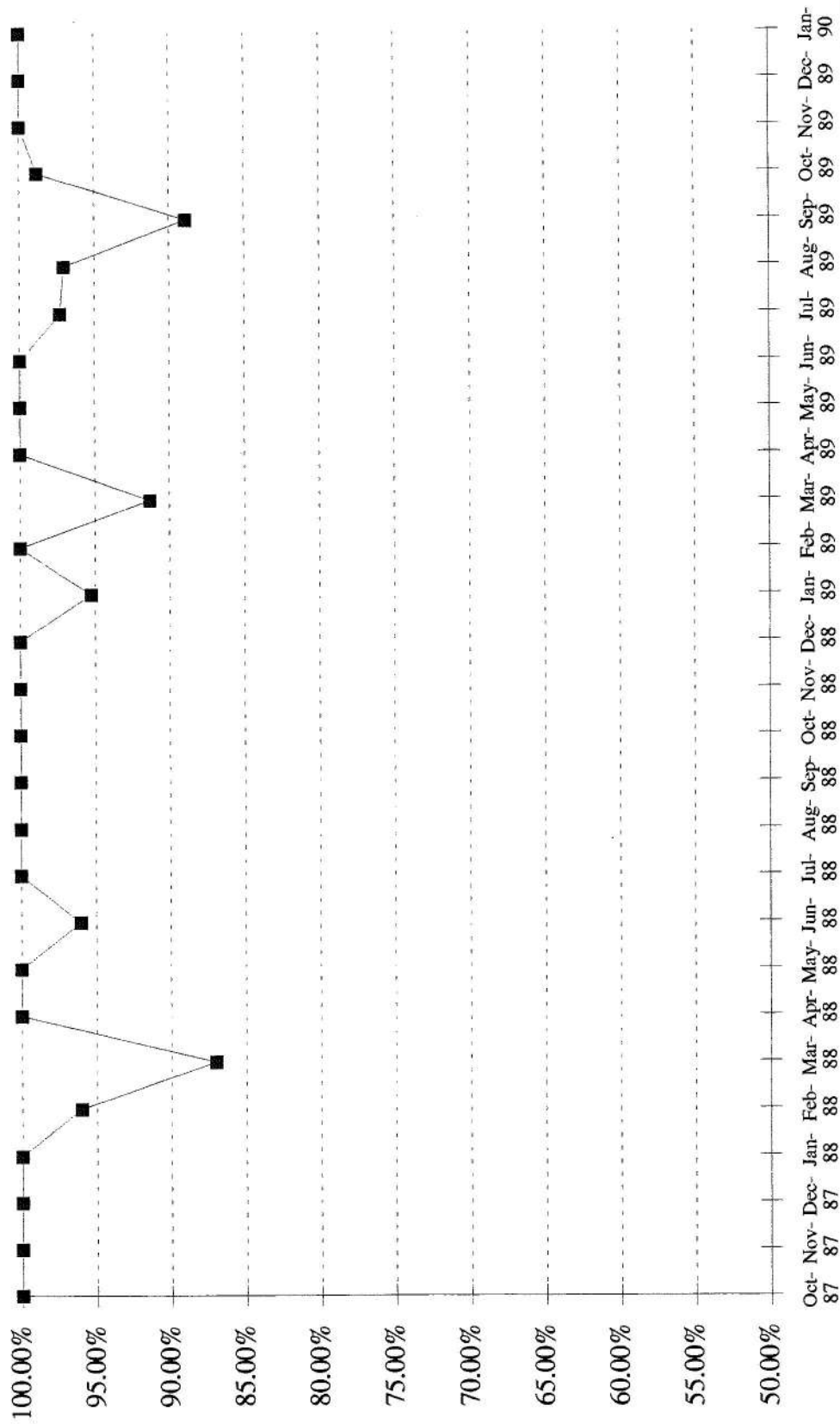
Krista's Attendance Rate



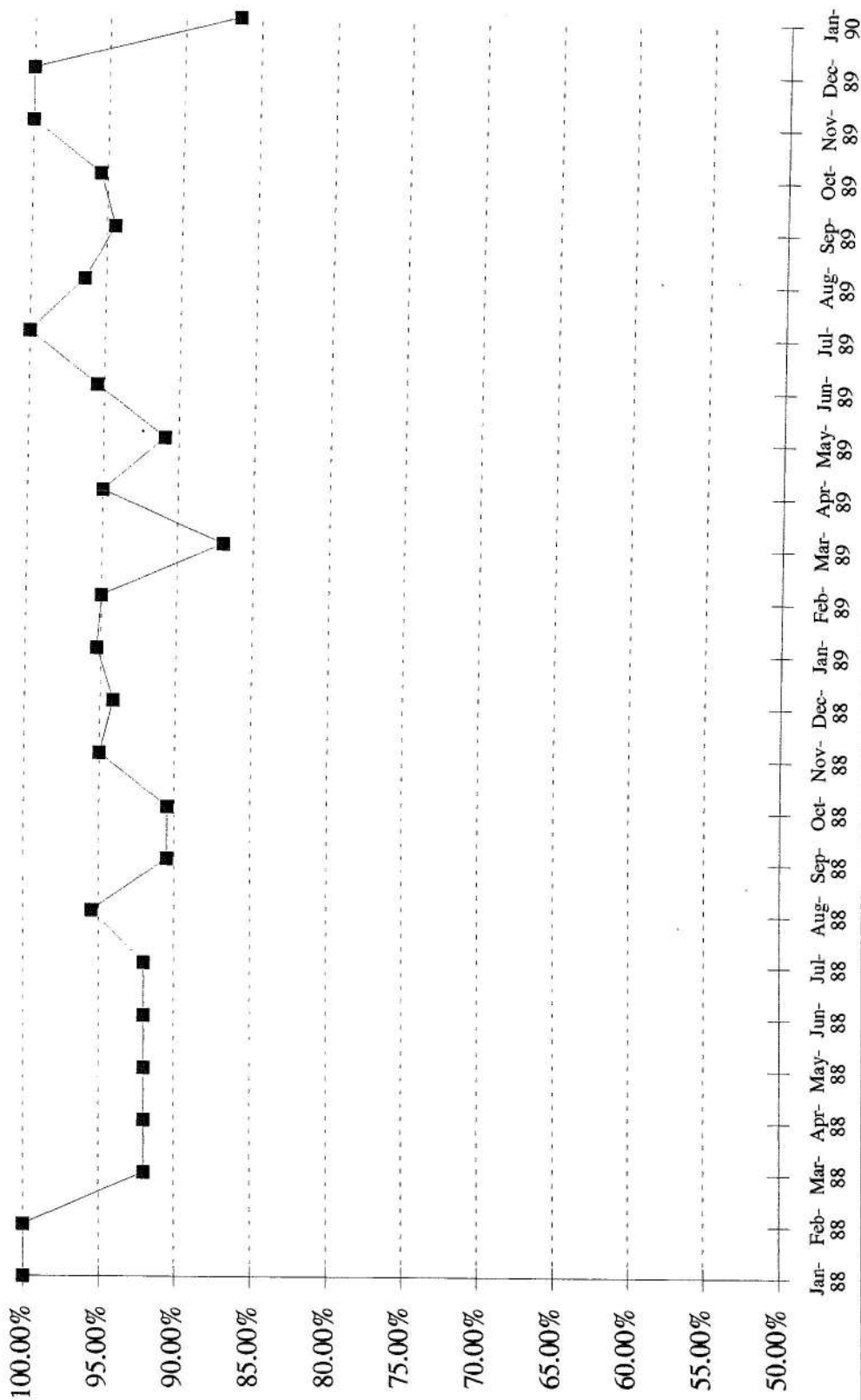
Jim's Attendance Rate



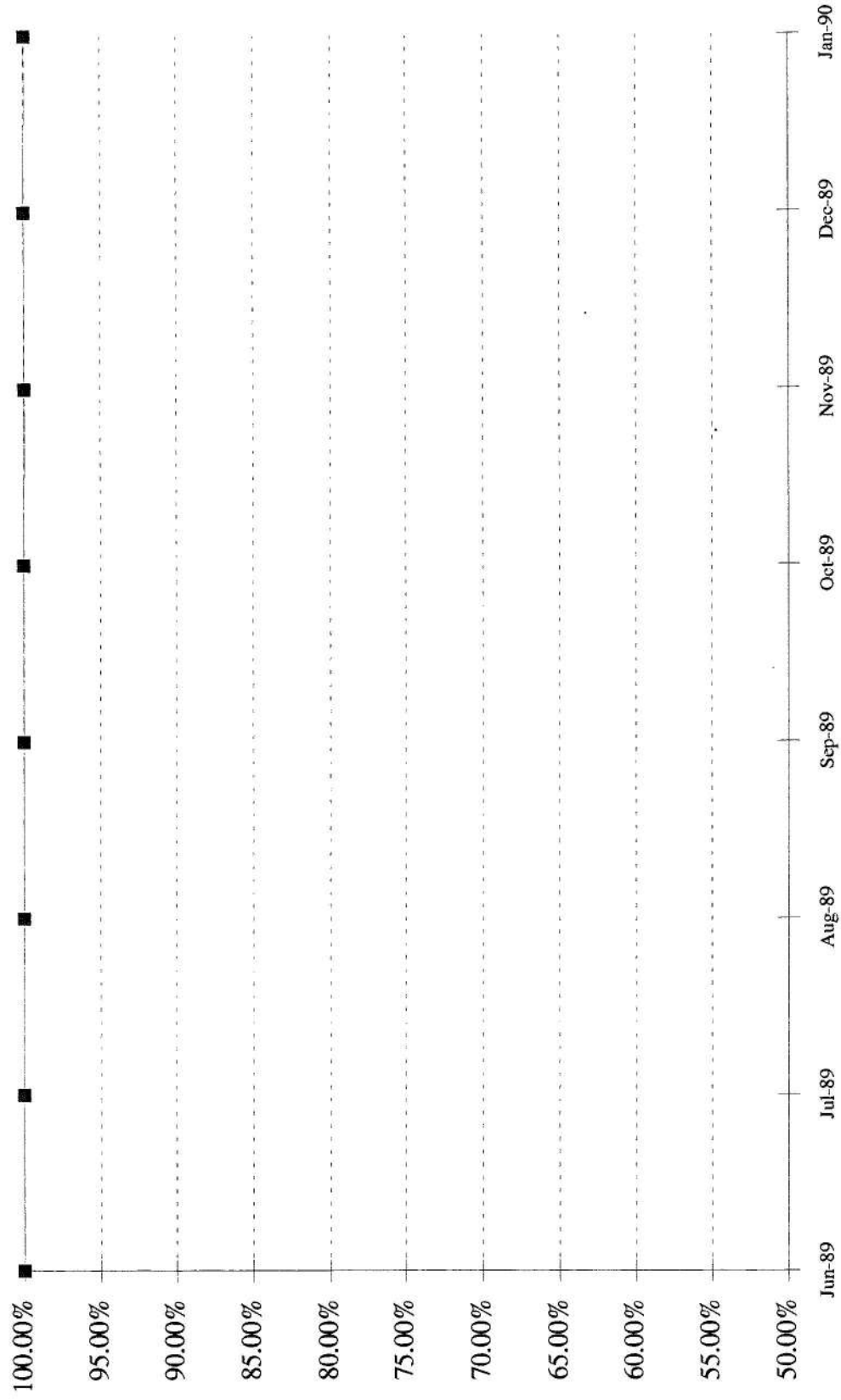
Tammy's Attendance Rate



Judy's Attendance Rate



Robert's Attendance Rate



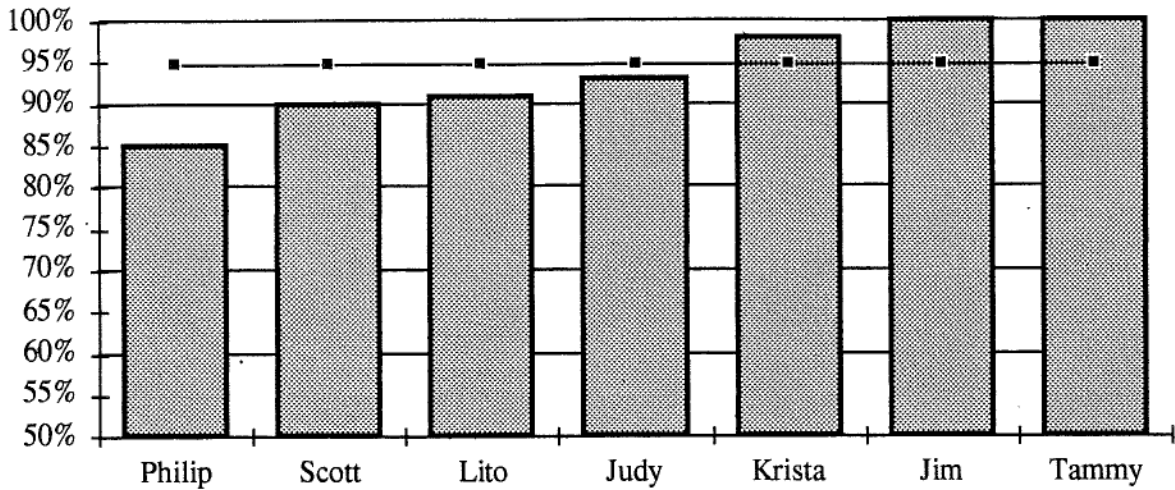
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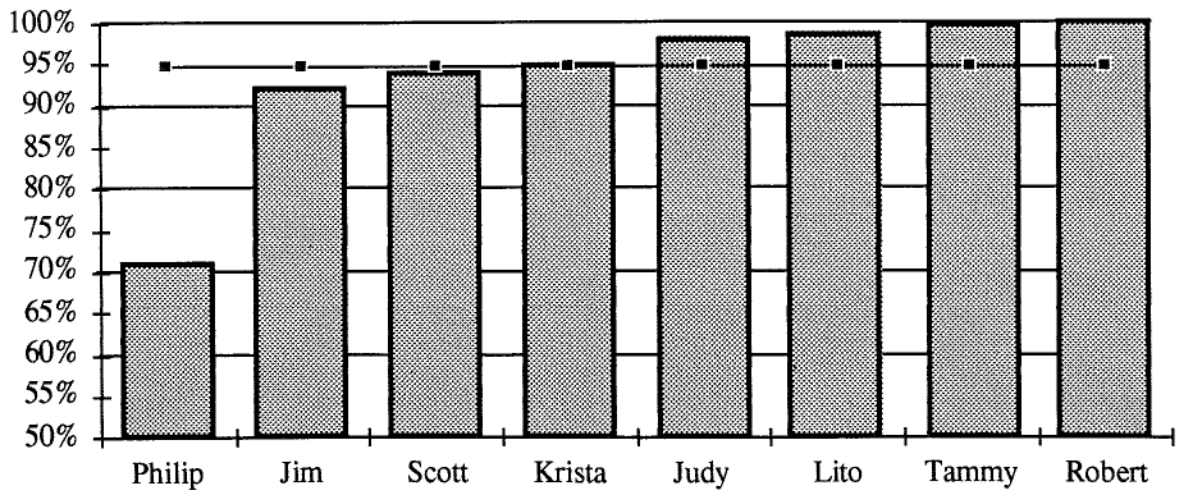
Attendance Pareto Analysis

Def. Attendance of the employees with disabilities is depicted in a pareto analysis, charting the lowest attendance rate first. Attendance data for the fourth quarters of 1988 and 1989 are used for the analysis. NEC America Oregon Plant requires 95% attendance.

Attendance Pareto Analysis Fourth Quarter 1988



Attendance Pareto Analysis Fourth Quarter 1989



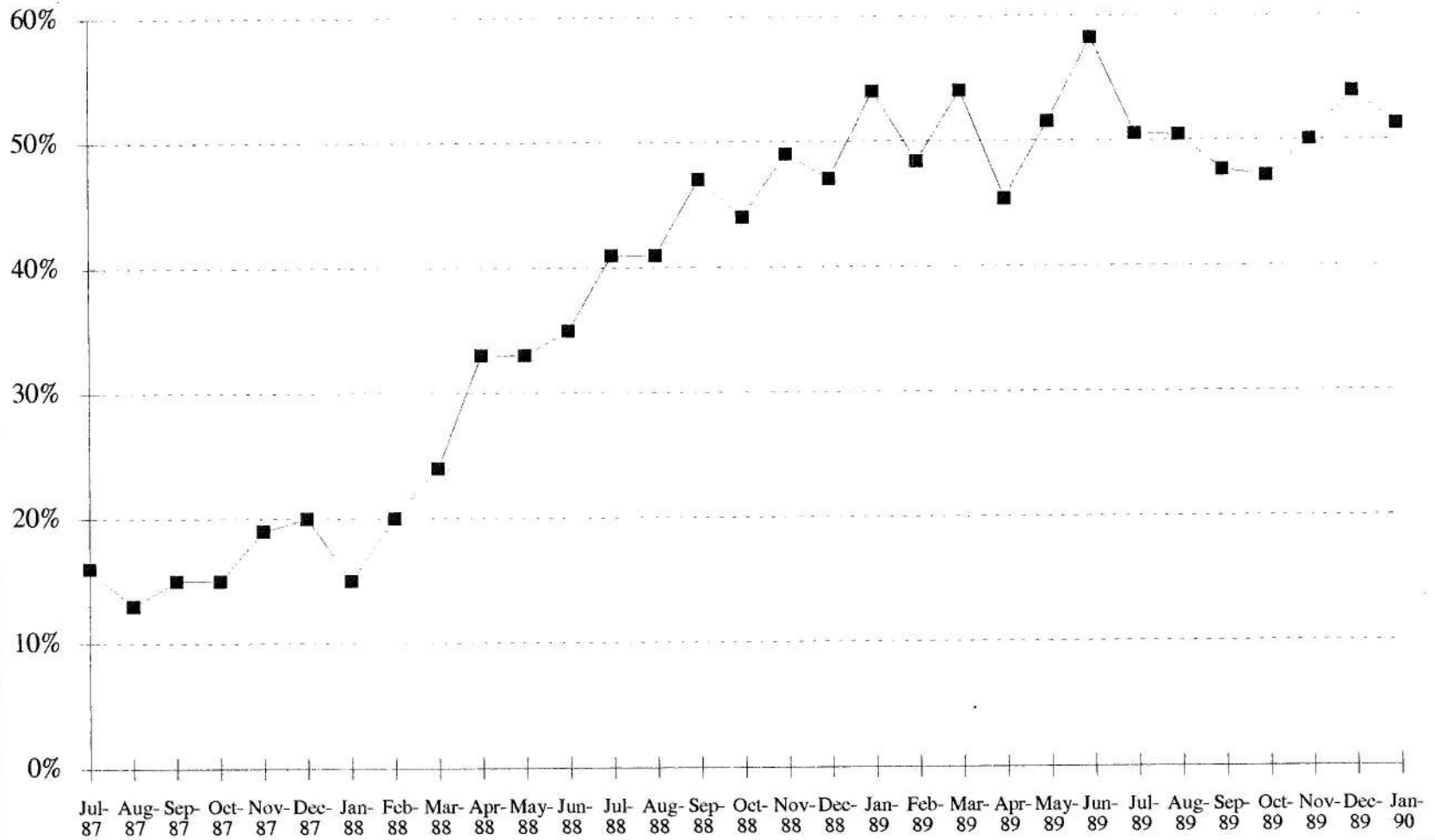
NEC AMERICA OREGON PLANT

Report Period July, 1987 - January, 1990

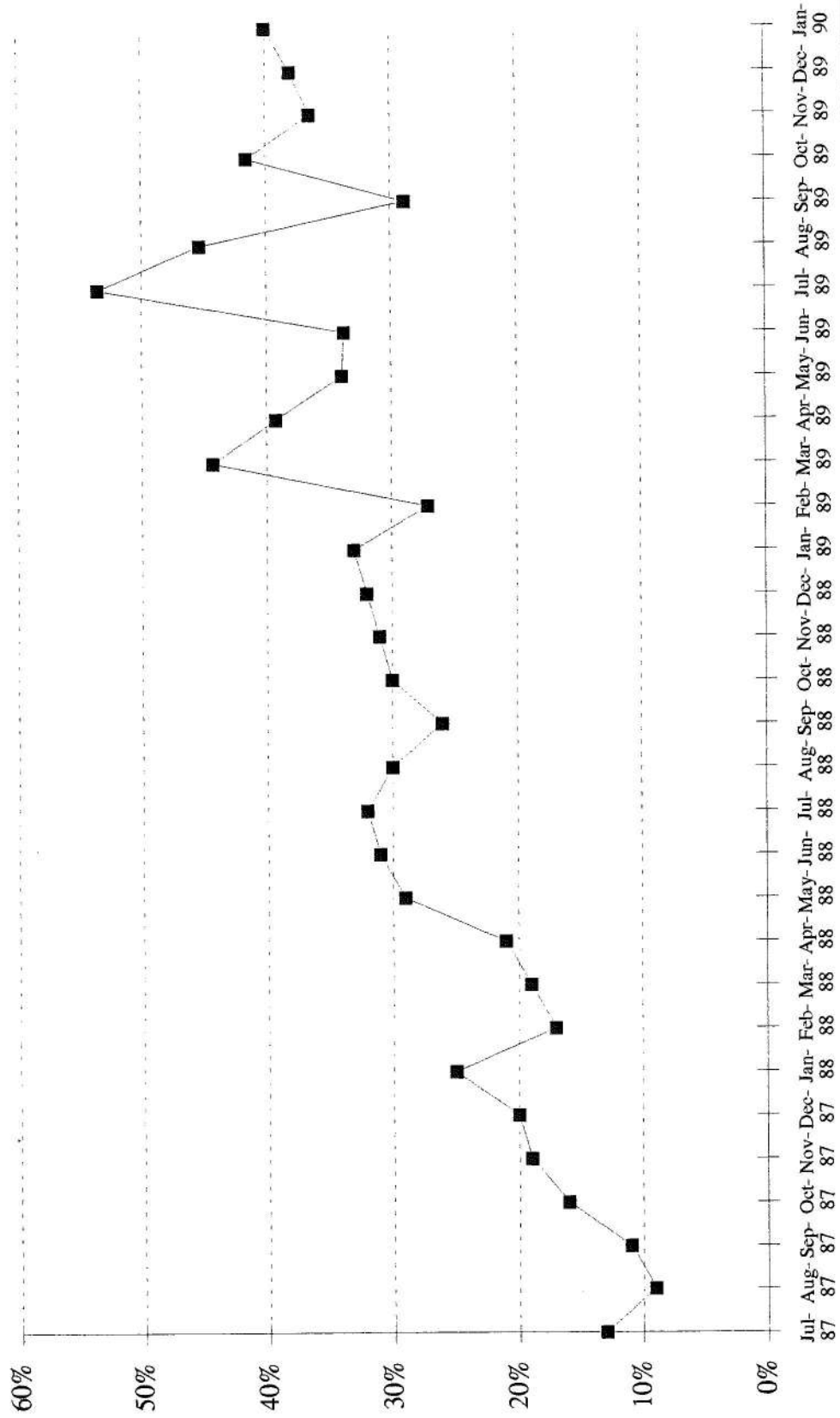
Percent Productivity

Def. A time standard derived by measuring the minutes per unit per task performed by an employee without disabilities is divided by the actual minutes per unit performed by an employee with disabilities and then multiplied by 100.

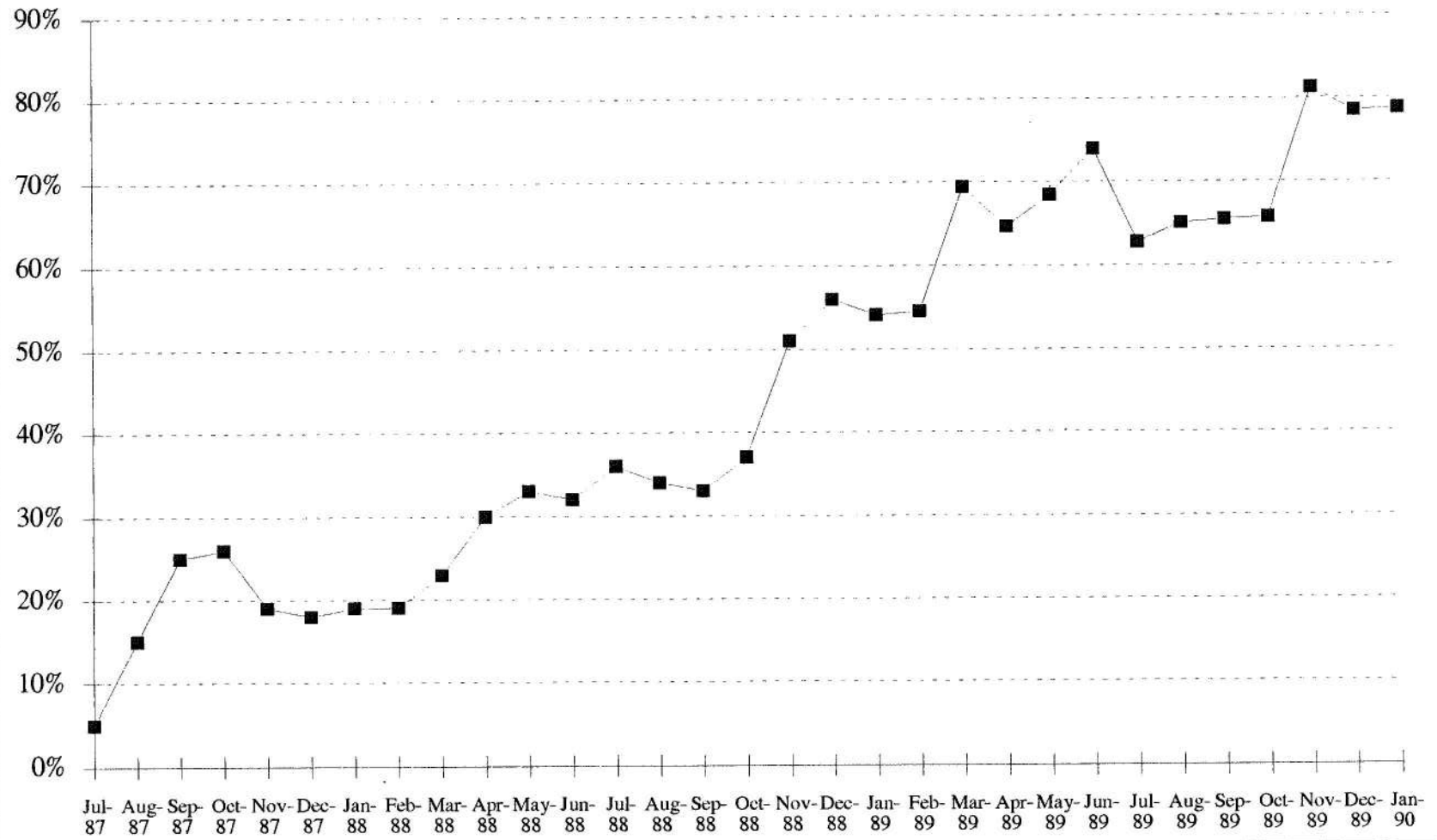
Lito's Percent Productivity



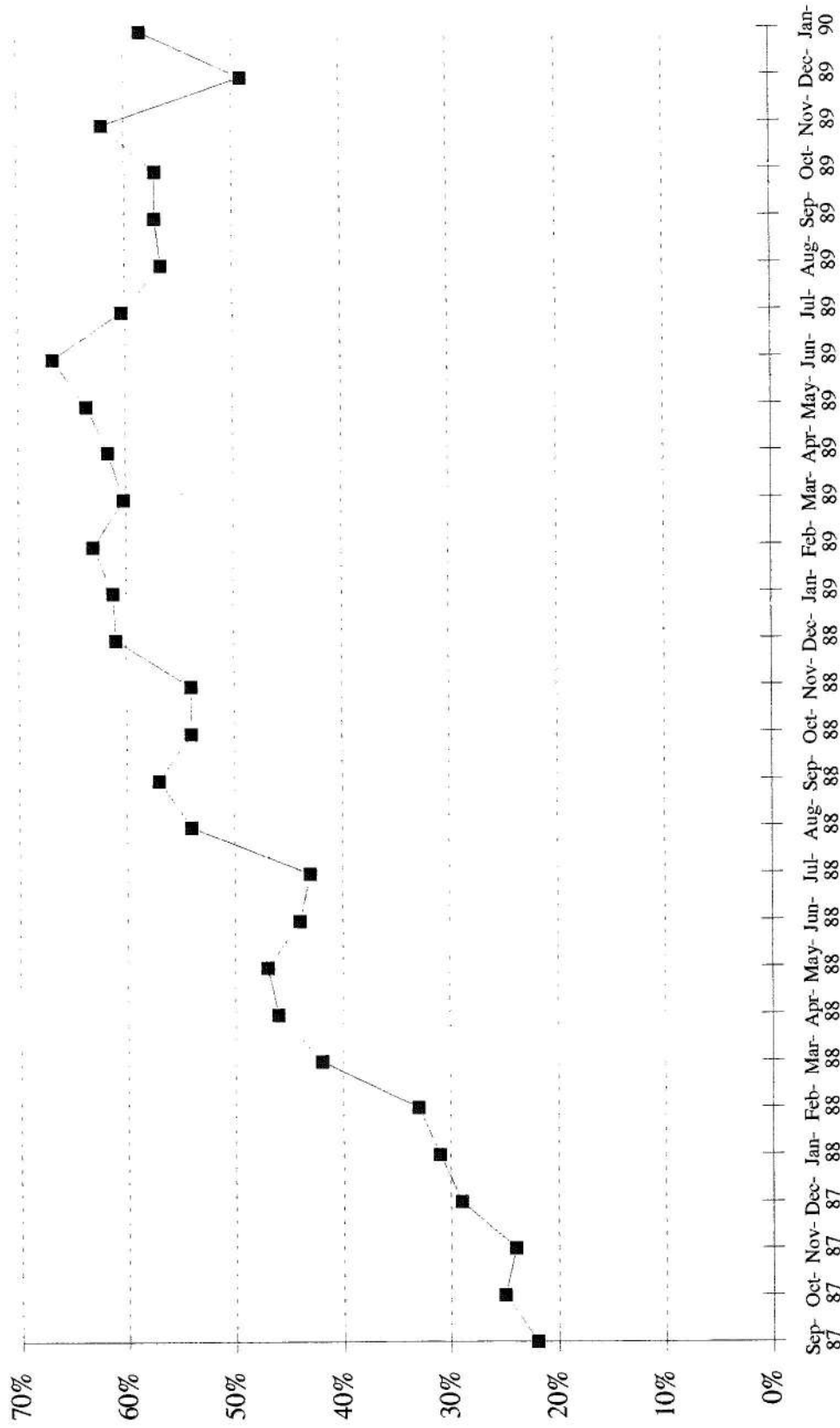
Scott's Percent Productivity



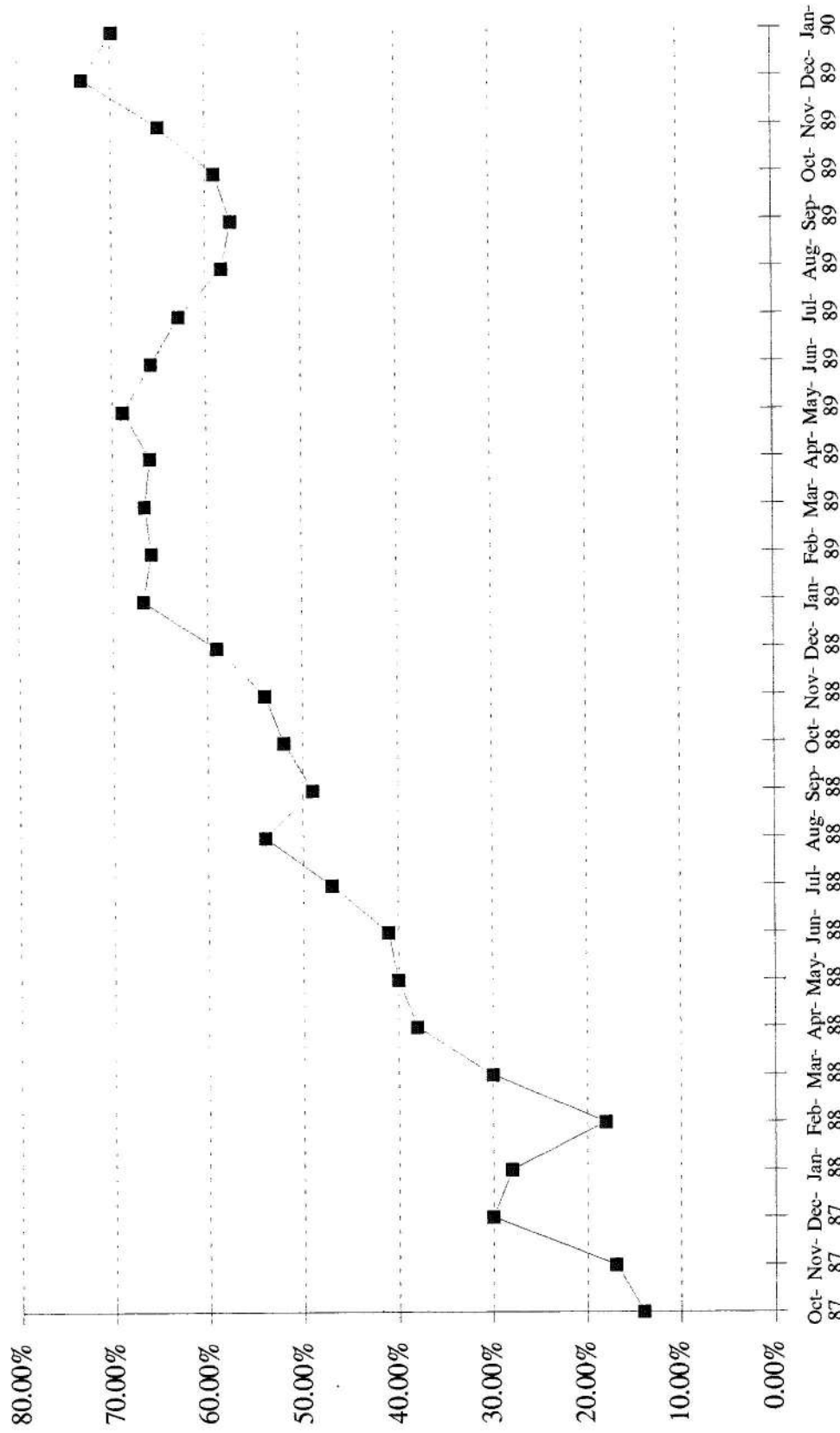
Krista's Percent Productivity



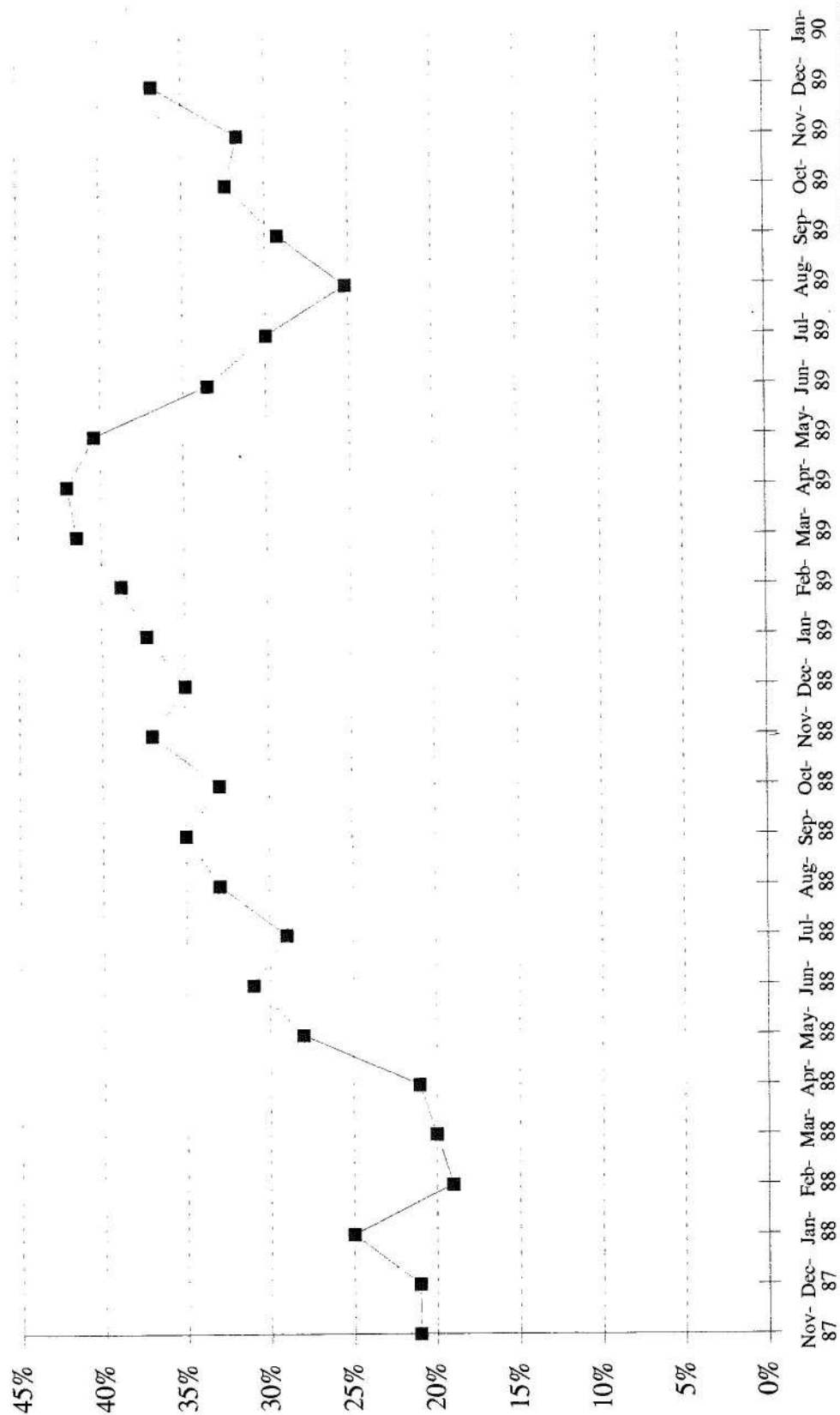
Jim's Percent Productivity



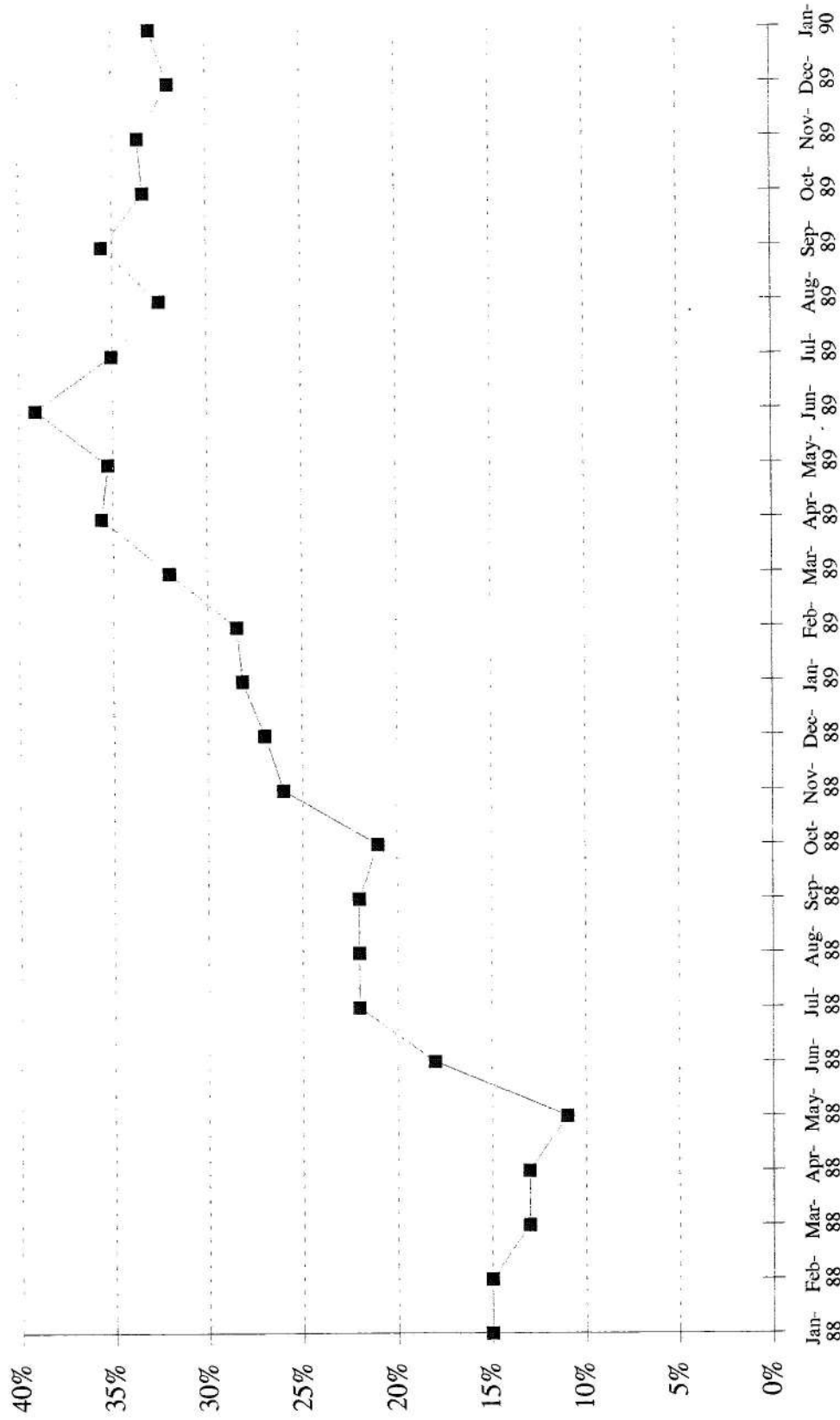
Tammy's Percent Productivity



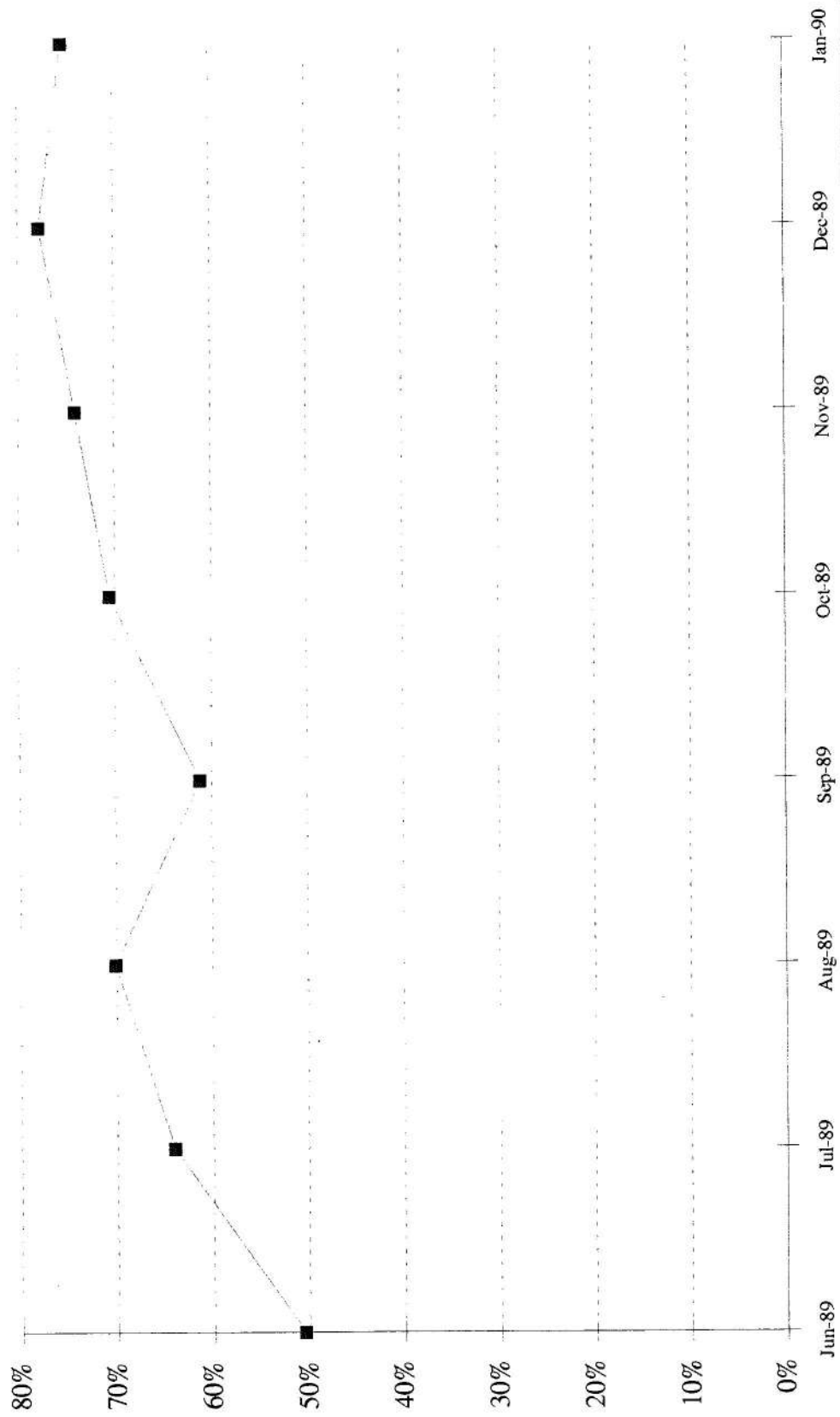
Philip's Percent Productivity



Judy's Percent Productivity



Robert's Percent Productivity



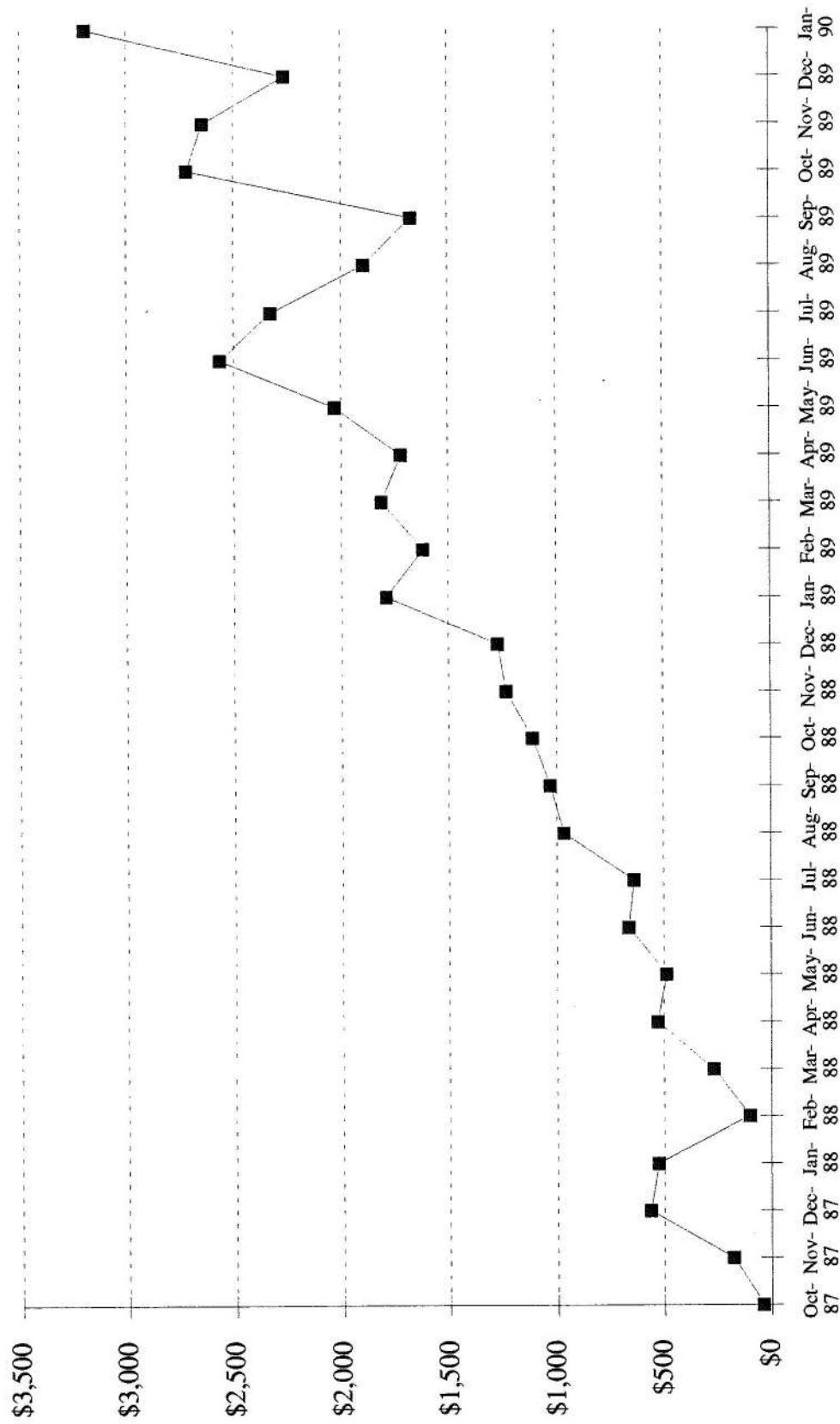
NEC AMERICA OREGON PLANT

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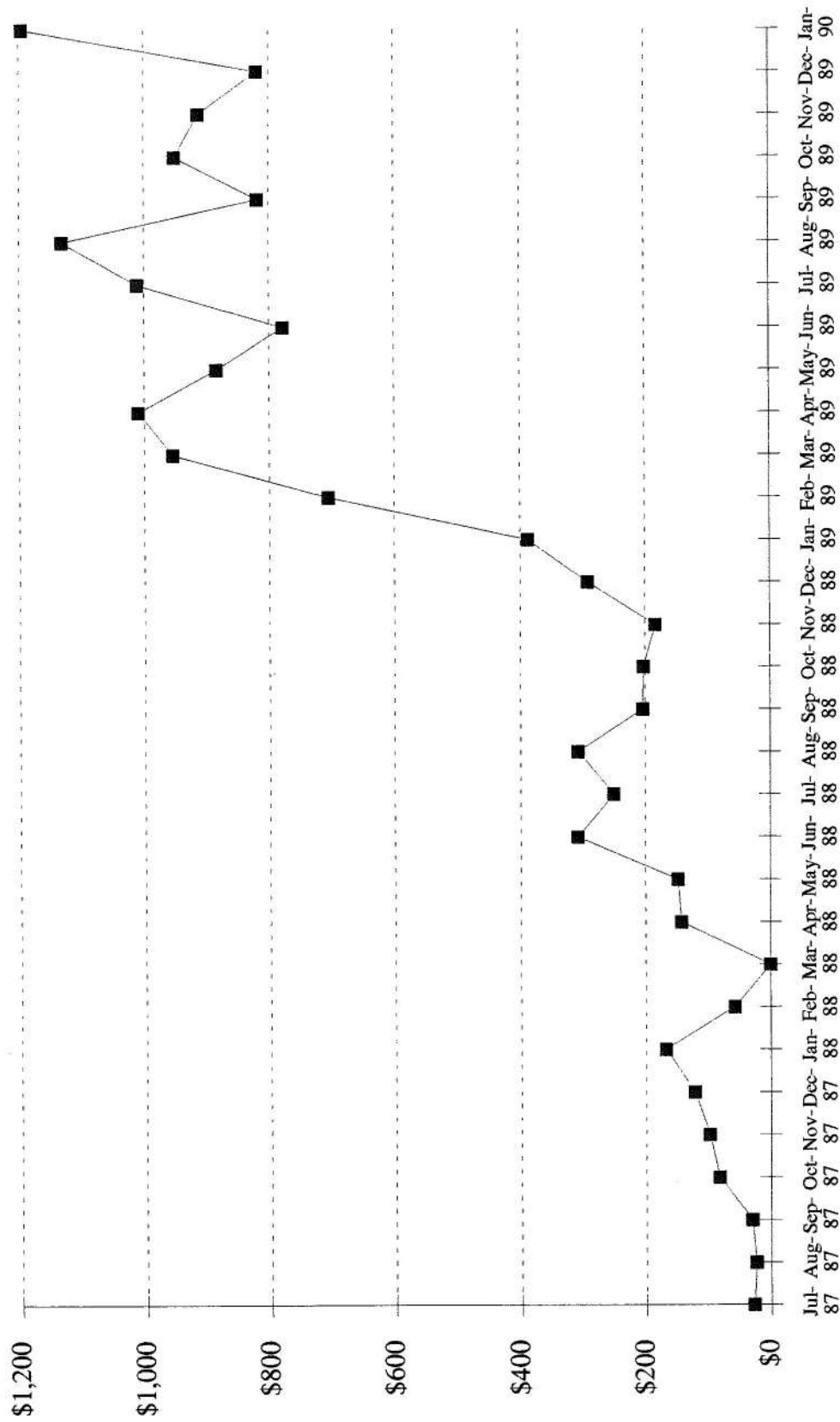
Value Added

Def. Value added data reported in the 1989-90 American Electronics Association Operating Ratios Survey was used to compute individual value added contributions. The value added data (\$79,800 per person per year) was the median value reported from companies reporting telecommunications as their major product and selling \$25 - \$100 million a year. Hours worked, attendance rate and percent productivity of the employees with disabilities were applied to the AEA value added data to 'normalize' their value added contribution.

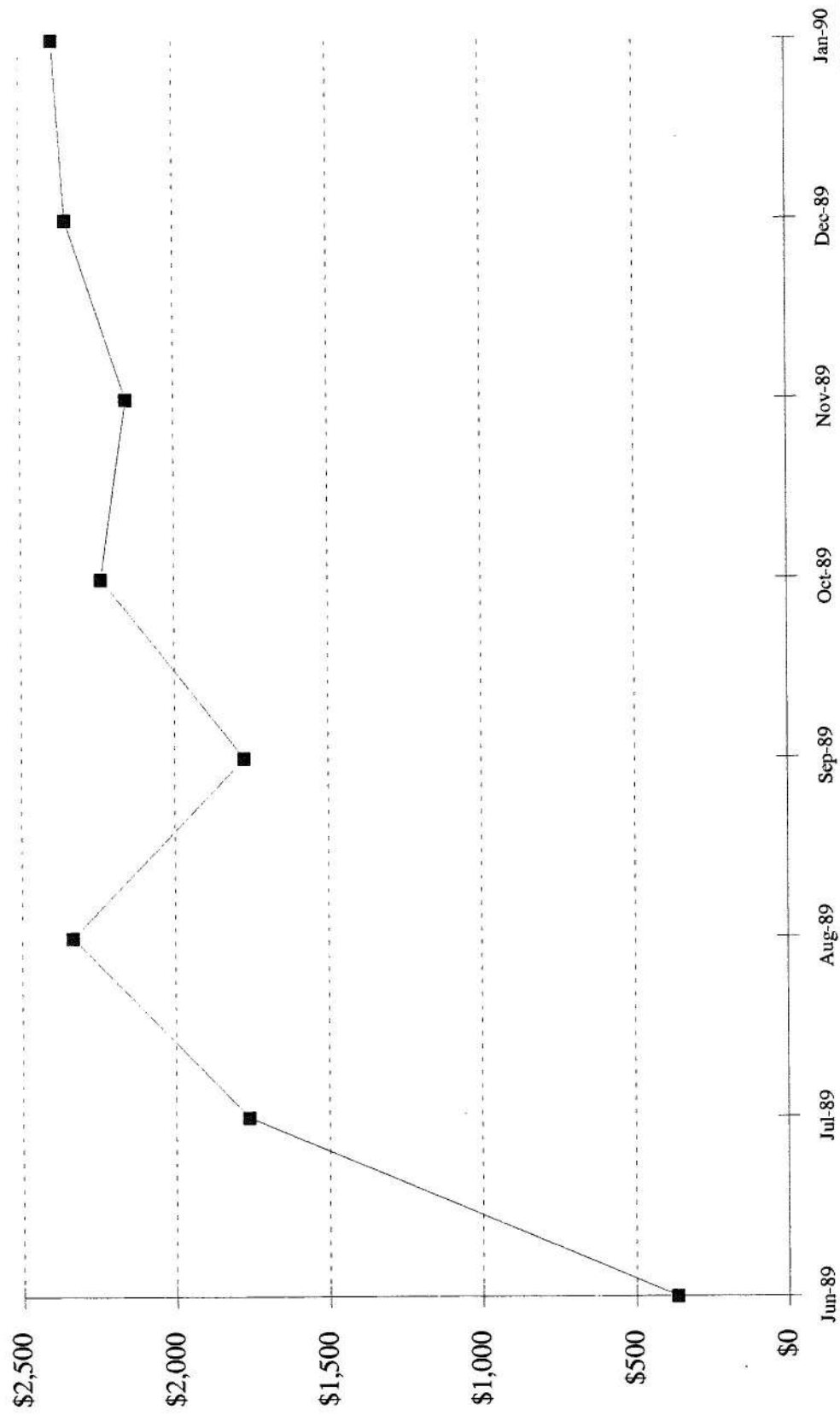
Tammy's Value Added Contribution



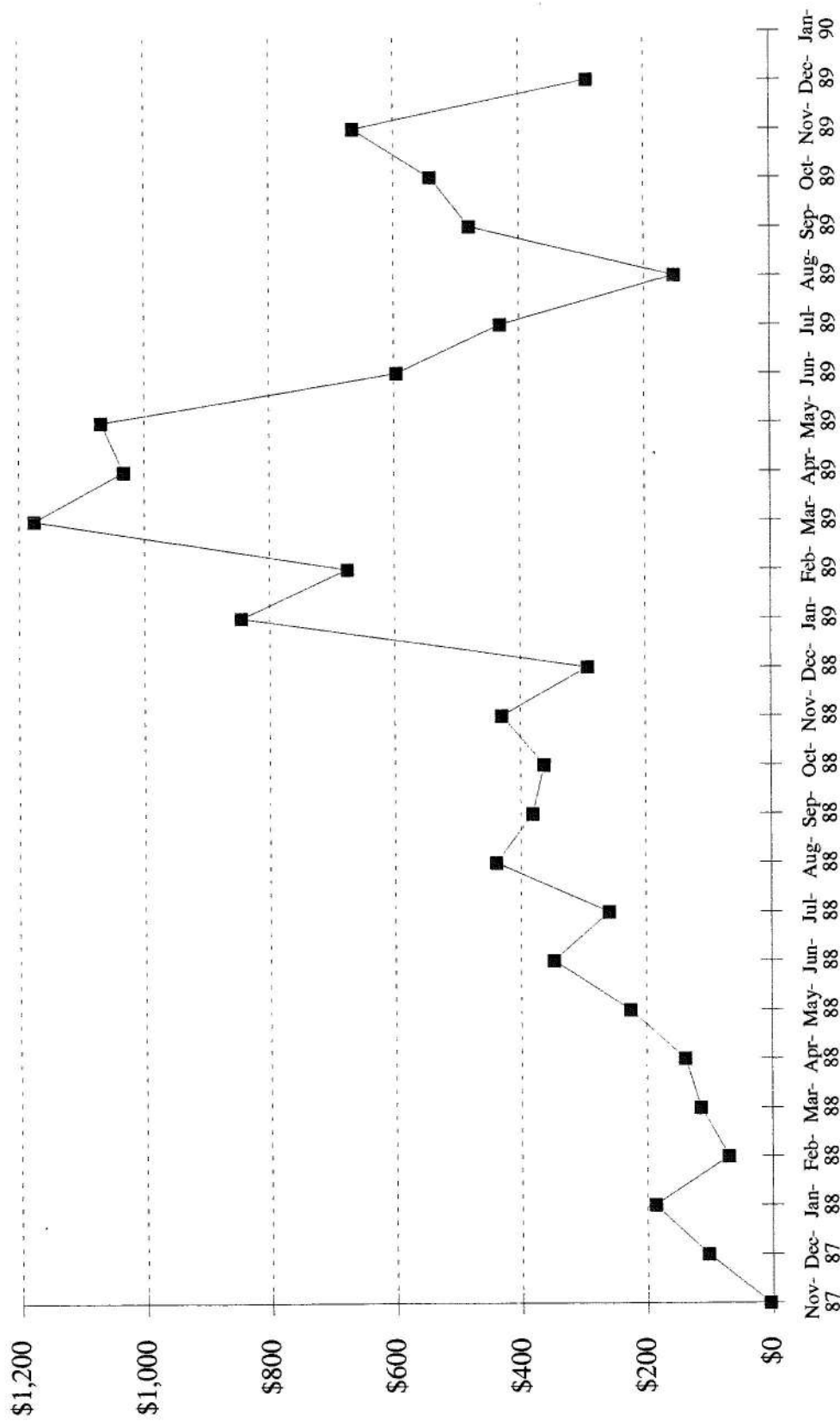
Scott's Value Added Contribution



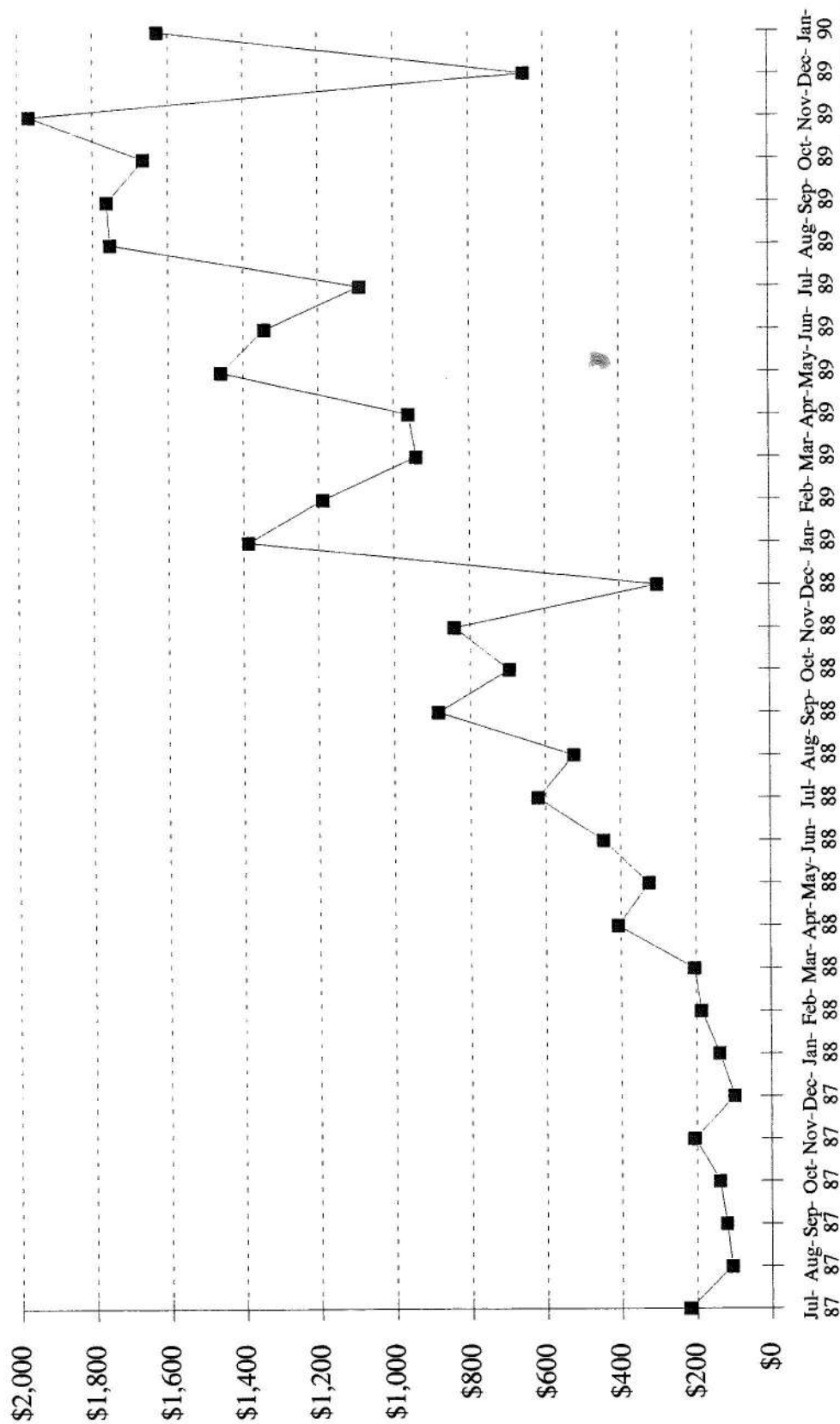
Robert's Value Added Contribution



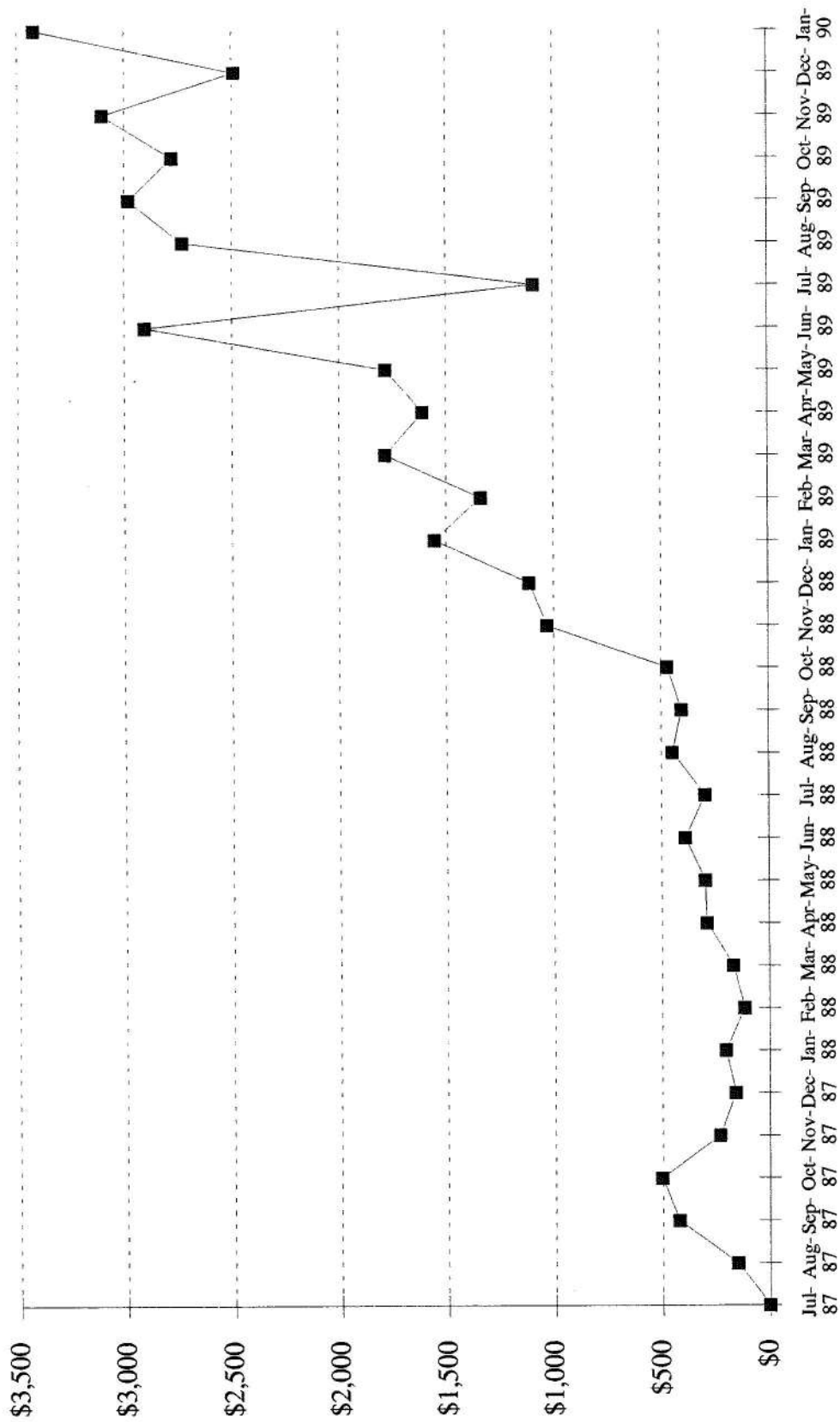
Philip's Value Added Contribution



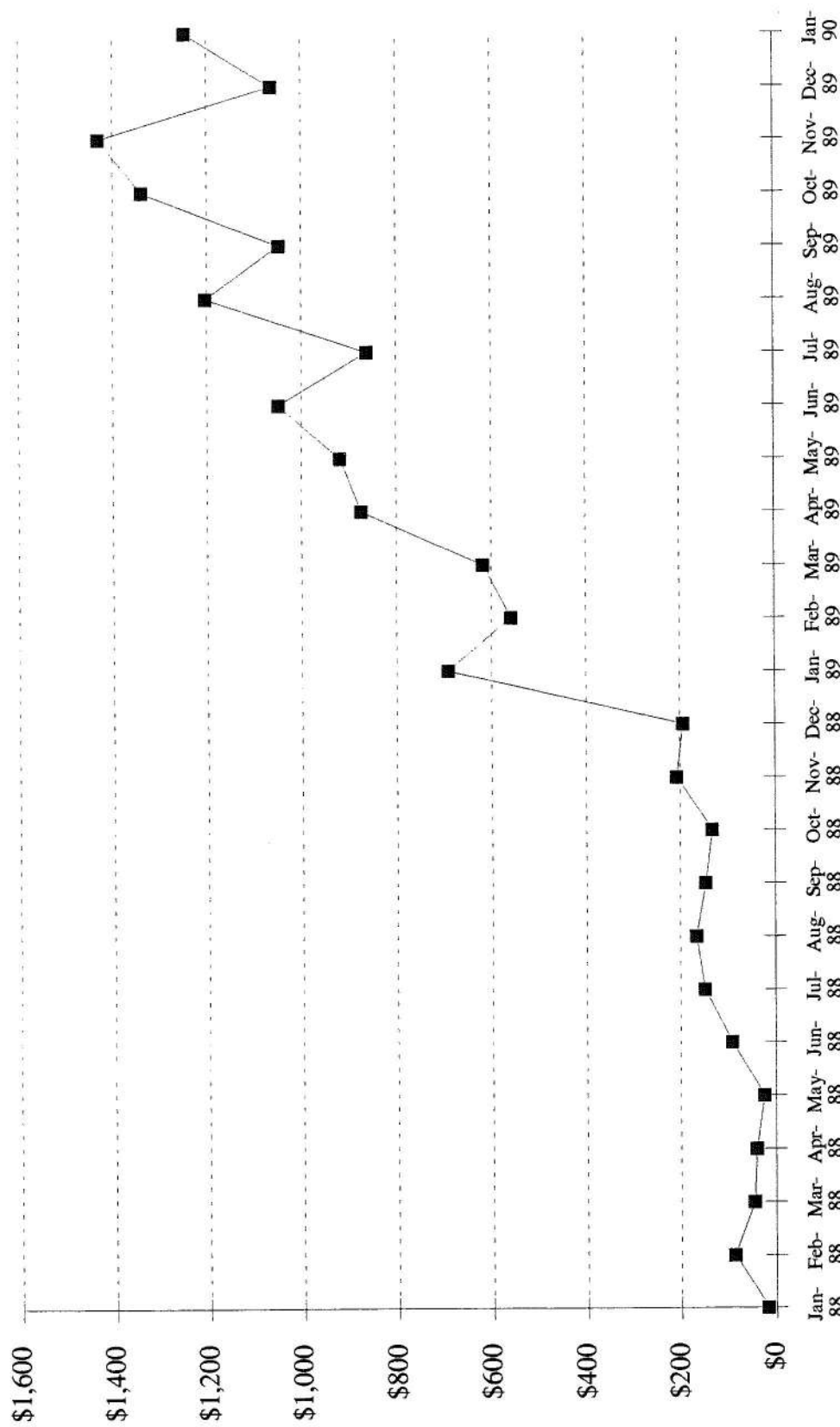
Lito's Value Added Contribution



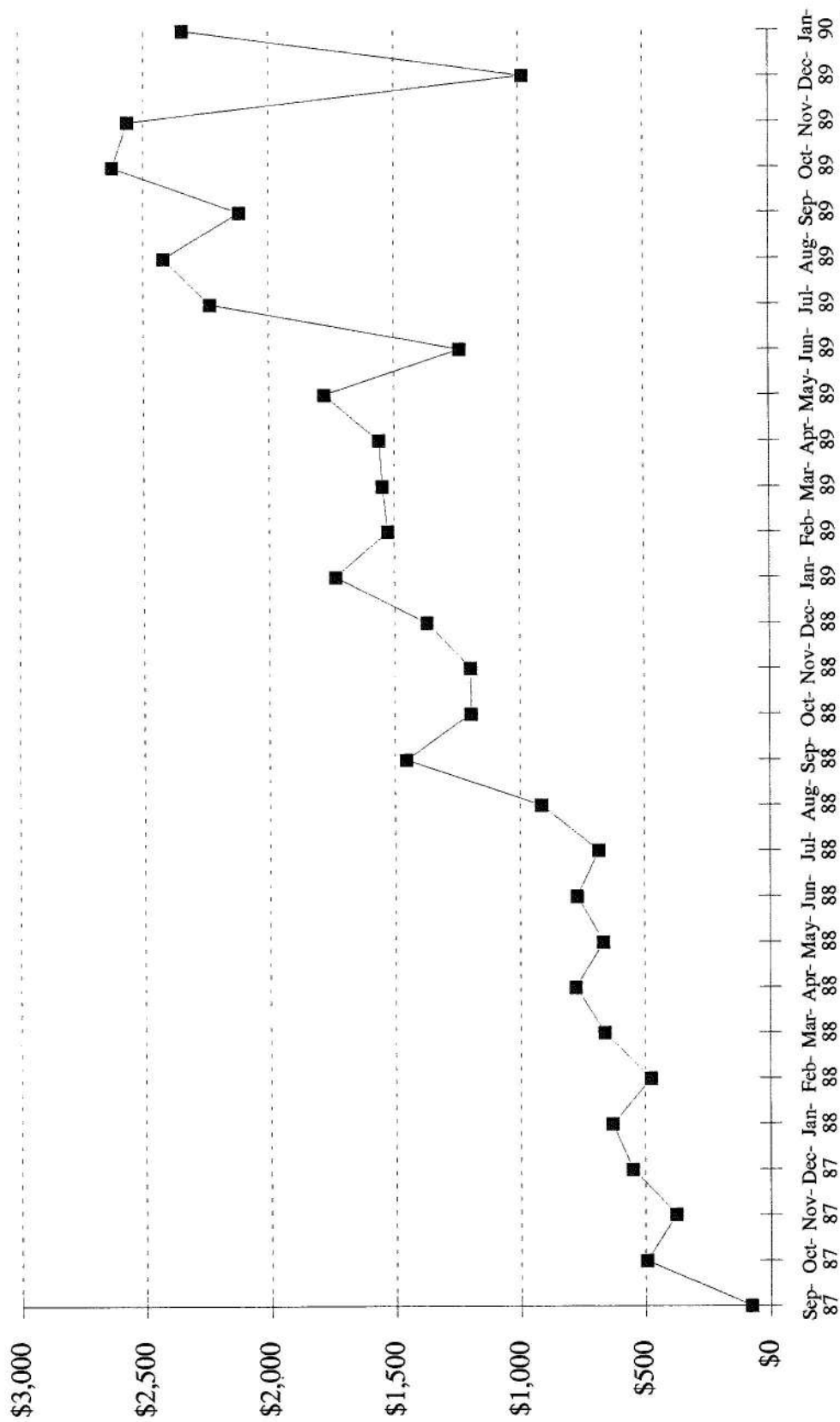
Krista's Value Added Contribution



Judy's Value Added Contribution



Jim's Value Added Contribution



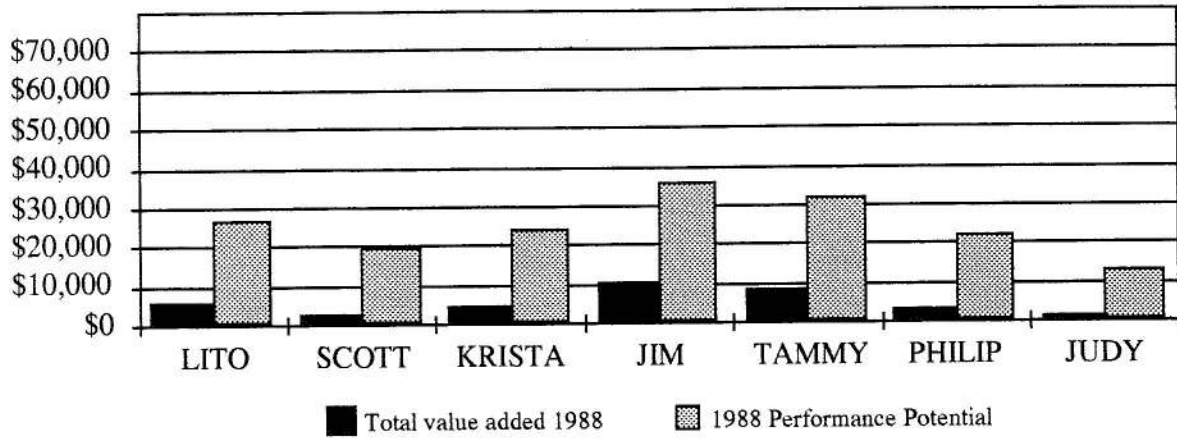
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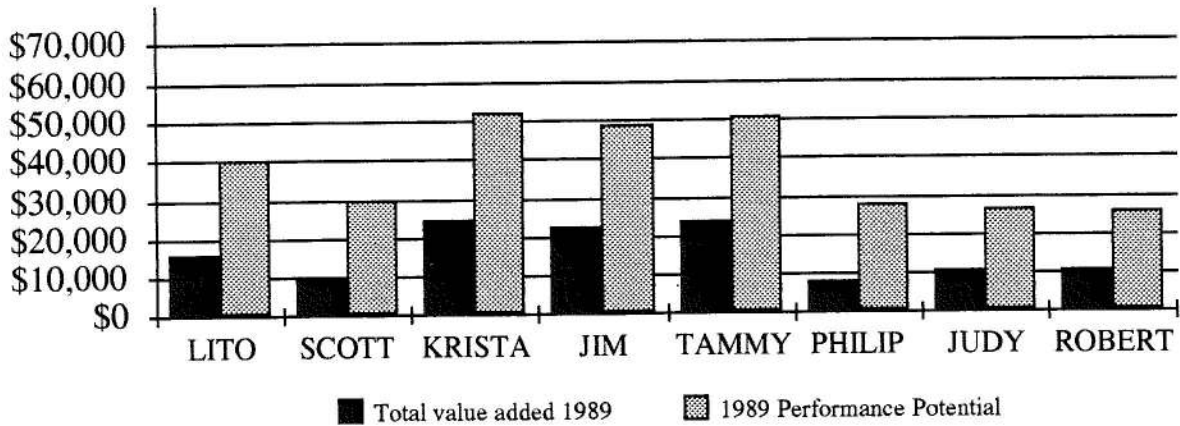
Performance Potential

Def. The employees with disabilities hours worked have been less than 8 hours per day. The performance potential indicates the *potential* value added for each employee if they worked 8 hours per day.

1988 PERFORMANCE POTENTIAL



1989 PERFORMANCE POTENTIAL



Community Impact

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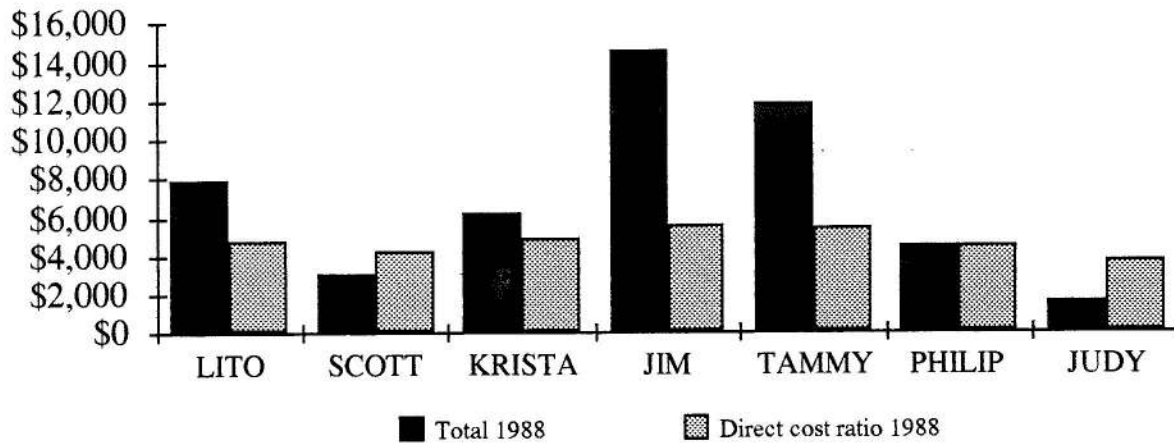
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Value Added and Direct Cost Ratio

Def. Value added for each employee with disabilities for 1988 and 1989 is compared with the direct cost. The direct cost for each employee with disabilities is computed by calculating their annual earnings which is added to their cost of supervision.

Value Added and Direct Cost Ratio 1988



Value Added and Direct Cost Ratio 1989

