# Notices
## of the American Mathematical Society

26th Annual AMS Survey      1982

*First Report*

## First Report

The following pages contain a first report on the 1982 AMS Survey. Included in this report are salary and other data on faculty members in four-year colleges and universities, a report on the 1982 survey of new doctorates, a report on salaries of new doctorates, and a list of names and thesis titles for members of the 1981-1982 Ph.D. class.

The Annual AMS Survey is conducted in two parts. Questionnaires were distributed in May to all departments in the mathematical sciences in colleges and universities in the United States and Canada, and later to the recipients of doctoral degrees granted by these departments between July 1981 and June 1982, inclusive. This report is based on the information collected from these questionnaires. A second round of questionnaires was distributed in September; these are concerned with data on fall enrollments, class size, teaching loads and faculty mobility. These data will be reported in the February or April 1983 issue of the *Notices*.

This Survey is the twenty-sixth in an annual series begun in 1957 by the Society's Committee on the Economic Status of Teachers. The present Survey is under the direction of the Committee on Employment and Educational Policy (CEEP), whose members are Lida K. Barrett (chairman), Irwin Kra, Robert W. McKelvey, Donald C. Rung, Robert J. Thompson, and Barnet M. Weinstock. The questionnaires were devised by CEEP's Data Subcommittee consisting of Lida K. Barrett, Susan J. Devlin, Lincoln K. Durst, Wendell H. Fleming, Arthur P. Mattuck, and Donald C. Rung (chairman).

## Faculty Salaries, Tenure, Women

The questionnaries sent to departments in the mathematical sciences asked for information on salaries and tenure. Departments submitted a minimum, median, and maximum salary figure for each of four academic ranks, for staff members both with and without doctorates. Annual salaries of full-time faculty members for the academic year of 9 or 10 months were sought. The 1982 questionnaire requested information for both the years 1981-1982 and 1982-1983. The sample in this survey is thus the same for both years and is different from the sample used in the Twenty-Fifth AMS Survey in 1981. In the salary tables on the following pages the numbers in parentheses give the range of the middle fifty percent of salaries reported. The figures outside the parentheses represent the mimimum and maximum salary listed by any reporting institution. In some categories relatively few departments reported and, because significant figures were not available, salaries are not listed.

The information reported this year on the number of faculty members is based on returns from 781 departments in the mathematical sciences, 150 of which did not contain usable salary information.

For these reports, the departments are divided into groups according to the highest degree offered in the mathematical sciences. The doctorate-granting departments are in six groups as described in the box.

Group I and Group II include the leading departments of mathematics in the U. S. according to the findings of the American Coucil on Education in 1969, in which departments were ranked according to the quality of their graduate faculty.[1]

Group I is composed of the 27 departments with scores in the 3.0-5.0 range.

Group II is composed of the next 38 leading departments with scores in the 2.0-2.9 range.

Group III contains all other U.S. departments of mathematics.

Group IV includes U.S. departments of statistics, biostatistics and biometrics.

Group V includes all other U.S. departments in the mathematical sciences.

Group VI consists of all doctorate-granting departments in the mathematical sciences in Canadian universities.

Although Canadian doctorate-granting departments are grouped separately, those granting bachelor and master degrees are included with U.S. departments, as in previous reports in this series.

[1] The findings were published in *A Rating of Graduate Programs* by Kenneth D. Roose and Charles J. Andersen, American Council on Education, Washington, D.C., 1969, 115 pp. The information on mathematics was reprinted in the February 1971 issue of the *Notices*, pages 338 to 340.

## TABLE 1:  Total Faculty Reported for Four-Year Colleges and Universities

| | 1981–1982 | | | | 1982–1983 | | | |
| | FACULTY | | WOMEN | | FACULTY | | WOMEN | |
| | Total | With Tenure | Total | With Tenure | Total | With Tenure | Total | With Tenure |
|---|---|---|---|---|---|---|---|---|
| **WITHOUT DOCTORATE** | | | | | | | | |
| Instructor/Lecturer | 829 | 51 | 46 | 27 | 810 | 52 | 425 | 25 |
| Assistant Professor | 597 | 406 | 32 | 91 | 614 | 379 | 135 | 82 |
| Associate Professor | 476 | 442 | 57 | 49 | 459 | 423 | 52 | 48 |
| Professor | 173 | 167 | 13 | 13 | 167 | 164 | 12 | 12 |
| | 2075 | 1066 | 648 | 180 | 2050 | 1018 | 624 | 167 |
| **WITH DOCTORATE** | | | | | | | | |
| Instructor/Lecturer | 197 | 5 | 39 | 2 | 193 | 5 | 36 | 2 |
| Assistant Professor | 2074 | 221 | 269 | 24 | 2159 | 205 | 297 | 29 |
| Associate Professor | 2829 | 2511 | 205 | 161 | 2814 | 2479 | 207 | 159 |
| Professor | 4013 | 3943 | 149 | 143 | 4196 | 4121 | 160 | 154 |
| | 9113 | 6680 | 662 | 330 | 9362 | 6810 | 700 | 344 |

## TABLE 2: Percent of Doctorate Faculty with Tenure

| | Fall 1981 | Fall 1982 |
|---|---|---|
| Groups I, II, III | 77.5% | 78.1% |
| Groups IV, V | 64.2% | 62.9% |
| Group VI | 88.4% | 88.2% |
| Masters and Bachelors | 70.6% | 69.4% |

## TABLE 3: Response Rates

U.S. Departments

| Group | I | II | III | IV | V | M | B |
|---|---|---|---|---|---|---|---|
| % Response | 74 | 79 | 78 | 63 | 41 | 47 | 37 |

Canadian Departments

| Group | VI | M | B |
|---|---|---|---|
| % Response | 37 | 30 | 27 |

**Response Rates.**  Response rates among the various classes of departments vary widely, thus making it difficult to draw firm conclusions about the sizes of the faculty groups studied.  Because the questionnaires request data for two years in a row, however, it is possible to estimate relative changes from one year to the next with somewhat more confidence.  This year's response rates are given in Table 3.  As in past years, the greatest rates of response are in Groups I, II, and III, which have a combined response rate of 77%.

# Faculty Salaries

## SIZE OF FACULTY / SALARIES (in hundreds of dollars)

| | 1981–1982 FACULTY Total | 1981–1982 FACULTY With Tenure | 1981–1982 WOMEN Total | 1981–1982 WOMEN With Tenure | 1982–1983 FACULTY Total | 1982–1983 FACULTY With Tenure | 1982–1983 WOMEN Total | 1982–1983 WOMEN With Tenure | 1981–1982 Minimum | 1981–1982 Median | 1981–1982 Maximum | 1982–1983 Minimum | 1982–1983 Median | 1982–1983 Maximum |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **DOCTORATE GRANTING DEPARTMENTS. Group I** (20 of 27 reporting) | | | | | | | | | | | | | | |
| *WITHOUT DOCTORATE* | | | | | | | | | | | | | | |
| Instructor/Lecturer | 3 | 0 | 3 | 0 | 3 | 0 | 3 | 0 | | | | | | |
| *WITH DOCTORATE* | | | | | | | | | | | | | | |
| Instructor/Lecturer | 36 | 0 | 7 | 0 | 30 | 0 | 6 | 0 | ---- | ---- | ---- | ---- | ---- | ---- |
| Assistant Professor | 150 | 6 | 19 | 2 | 150 | 4 | 22 | 2 | 180(181–205) | (195–216) | (215–231)280 | 190(197–217) | (212–226) | (223–250)280 |
| Associate Professor | 130 | 123 | 11 | 11 | 124 | 121 | 7 | 7 | 190(218–246) | (253–276) | (276–325)340 | 216(237–255) | (260–288) | (285–318)364 |
| Professor | 594 | 593 | 12 | 12 | 609 | 609 | 15 | 15 | 248(277–330) | (365–436) | (513–575)630 | 262(283–372) | (381–460) | (545–629)655 |
| | 910 | 722 | 49 | 25 | 913 | 734 | 50 | 24 | | | | | | |
| **DOCTORATE GRANTING DEPARTMENTS. Group II** (30 of 38 reporting) | | | | | | | | | | | | | | |
| *WITHOUT DOCTORATE* | | | | | | | | | | | | | | |
| Instructor/Lecturer | 43 | 5 | 27 | 2 | 36 | 4 | 23 | 1 | | | | | | |
| Assistant Professor | 8 | 6 | 1 | 1 | 5 | 5 | 1 | 1 | | | | | | |
| Professor | 2 | 2 | 0 | 0 | 2 | 2 | 0 | 0 | | | | | | |
| | 53 | 13 | 28 | 3 | 43 | 11 | 24 | 2 | | | | | | |
| *WITH DOCTORATE* | | | | | | | | | | | | | | |
| Instructor/Lecturer | 55 | 2 | 10 | 0 | 55 | 2 | 9 | 0 | 135(160–190) | (166–190) | (171–200)291 | 155(166–200) | (173–210) | (180–210)236 |
| Assistant Professor | 173 | 10 | 18 | 5 | 181 | 11 | 19 | 5 | 148(175–210) | (197–228) | (213–256)280 | 180(200–219) | (211–240) | (236–260)290 |
| Associate Professor | 355 | 330 | 16 | 15 | 337 | 316 | 18 | 17 | 189(220–246) | (246–280) | (270–326)378 | 196(229–269) | (268–303) | (293–355)406 |
| Professor | 539 | 527 | 14 | 14 | 566 | 554 | 14 | 14 | 230(265–301) | (336–397) | (465–545)670 | 250(283–323) | (361–419) | (510–570)850 |
| | 1122 | 869 | 58 | 34 | 1139 | 883 | 60 | 36 | | | | | | |
| **DOCTORATE GRANTING DEPARTMENTS. Group III** (70 of 90 reporting) | | | | | | | | | | | | | | |
| *WITHOUT DOCTORATE* | | | | | | | | | | | | | | |
| Instructor/Lecturer | 136 | 11 | 89 | 9 | 144 | 11 | 90 | 9 | 105(124–169) | (131–171) | (140–193)250 | 105(135–170) | (139–184) | (155–200)260 |
| Assistant Professor | 62 | 52 | 23 | 18 | 53 | 45 | 16 | 13 | 161(179–206) | (182–221) | (198–230)258 | 175(184–230) | (193–242) | (212–248)263 |
| Associate Professor | 45 | 45 | 8 | 6 | 40 | 40 | 5 | 5 | 161(236–276) | (249–290) | (251–292)337 | 210(241–291) | (261–301) | (277–312)341 |
| Professor | 15 | 15 | 0 | 0 | 14 | 14 | 0 | 0 | ---- | ---- | ---- | ---- | ---- | ---- |
| | 258 | 123 | 120 | 33 | 251 | 110 | 111 | 27 | | | | | | |
| *WITH DOCTORATE* | | | | | | | | | | | | | | |
| Instructor/Lecturer | 43 | 1 | 5 | 1 | 37 | 0 | 2 | 0 | 125(140–190) | (155–197) | (155–197)220 | 148(170–200) | (174–200) | (177–205)261 |
| Assistant Professor | 395 | 47 | 41 | 3 | 390 | 41 | 39 | 2 | 150(175–200) | (196–217) | (210–250)304 | 150(187–212) | (215–240) | (230–271)335 |
| Associate Professor | 621 | 585 | 38. | 31 | 605 | 570 | 35 | 30 | 181(212–240) | (242–279) | (270–328)385 | 180(228–258) | (260–296) | (289–348)392 |
| Professor | 821 | 820 | 26 | 25 | 854 | 846 | 25 | 25 | 213(264–297) | (308–377) | (381–500)600 | 228(283–322) | (331–392) | (411–545)640 |
| | 1880 | 1443 | 110 | 60 | 1886 | 1457 | 101 | 57 | | | | | | |

632

# DOCTORATE GRANTING DEPARTMENTS. Group IV  (40 of 64 reporting)

## WITHOUT DOCTORATE

| | | | | | | | | Salary data |
|---|---|---|---|---|---|---|---|---|
| Instructor/Lecturer | 11 | 0 | 6 | 0 | 11 | 0 | 5 | 0 | ---- |
| Assistant Professor | 3 | 2 | 0 | 0 | 3 | 2 | 0 | 0 | ---- |
| Associate Professor | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ---- |
| Professor | 4 | 3 | 0 | 0 | 4 | 3 | 0 | 0 | ---- |
| | 18 | 5 | 6 | 0 | 18 | 5 | 5 | 0 | |

## WITH DOCTORATE

| | | | | | | | | | Salary data |
|---|---|---|---|---|---|---|---|---|---|
| Instructor/Lecturer | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | ---- |
| Assistant Professor | 142 | 5 | 21 | 1 | 149 | 4 | 22 | 1 | 175(190-220) (204-242) 185(209-250) (225-259) (236-275)360 |
| Associate Professor | 90 | 70 | 5 | 1 | 92 | 70 | 6 | 2 | 206(246-288) (255-305) 225(253-310) (277-330) (284-347)399 |
| Professor | 267 | 262 | 9 | 9 | 271 | 266 | 9 | 9 | 216(289-366) (347-440) 230(302-386) (373-499) (469-624)685 |
| | 504 | 338 | 37 | 12 | 514 | 341 | 39 | 13 | |

# DOCTORATE GRANTING DEPARTMENTS. Group V  (56 of 138 reporting)

## WITHOUT DOCTORATE

| | | | | | | | | | Salary data |
|---|---|---|---|---|---|---|---|---|---|
| Instructor/Lecturer | 38 | 0 | 14 | 0 | 29 | 0 | 12 | 0 | 144(170-210) (180-233) 160(190-220) (200-220) (210-220)325 |
| Assistant Professor | 7 | 4 | 1 | 0 | 4 | 2 | 1 | 0 | ---- |
| Associate Professor | 5 | 3 | 0 | 0 | 5 | 2 | 0 | 0 | ---- |
| Professor | 12 | 11 | 0 | 0 | 10 | 10 | 0 | 0 | ---- |
| | 62 | 18 | 15 | 0 | 48 | 14 | 13 | 0 | |

## WITH DOCTORATE

| | | | | | | | | | Salary data |
|---|---|---|---|---|---|---|---|---|---|
| Instructor/Lecturer | 9 | 0 | 5 | 0 | 14 | 0 | 6 | 0 | ---- |
| Assistant Professor | 241 | 3 | 18 | 0 | 257 | 3 | 21 | 0 | 190(225-250) (237-264) 215(240-275) (260-290) (280-308)344 |
| Associate Professor | 182 | 146 | 10 | 6 | 195 | 152 | 8 | 5 | 223(260-300) (273-319) 247(275-330) (307-347) (320-380)450 |
| Professor | 345 | 336 | 5 | 4 | 352 | 343 | 8 | 7 | 228(309-369) (368-425) 228(329-394) (392-460) (457-580)748 |
| | 777 | 485 | 38 | 10 | 818 | 498 | 43 | 12 | |

# DOCTORATE GRANTING DEPARTMENTS. Group VI  (13 of 35 reporting)
(Canadian Departments)

## WITHOUT DOCTORATE

| | | | | | | | | | Salary data |
|---|---|---|---|---|---|---|---|---|---|
| Instructor/Lecturer | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ---- |
| Assistant Professor | 5 | 2 | 1 | 1 | 10 | 2 | 1 | 1 | ---- |
| Associate Professor | 9 | 9 | 0 | 0 | 8 | 8 | 0 | 0 | ---- |
| Professor | 7 | 7 | 0 | 0 | 7 | 7 | 0 | 0 | ---- |
| | 22 | 18 | 1 | 1 | 25 | 17 | 1 | 1 | |

## WITH DOCTORATE

| | | | | | | | | | Salary data |
|---|---|---|---|---|---|---|---|---|---|
| Instructor/Lecturer | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ---- |
| Assistant Professor | 42 | 10 | 3 | 1 | 40 | 7 | 4 | 1 | 149(162-270) (187-284) 171(192-303) (210-325) (223-339)458 |
| Associate Professor | 124 | 121 | 3 | 3 | 116 | 113 | 3 | 3 | 198(228-307) (229-393) 225(250-334) (254-485) (317-533)555 |
| Professor | 136 | 136 | 1 | 1 | 150 | 150 | 1 | 1 | 230(291-384) (323-476) 261(313-452) (343-549) (465-614)720 |
| | 302 | 267 | 7 | 5 | 306 | 270 | 8 | 5 | |

# SIZE OF FACULTY

| | 1981–1982 FACULTY Total | With Tenure | WOMEN Total | With Tenure | 1982–1983 FACULTY Total | With Tenure | WOMEN Total | With Tenure |
|---|---|---|---|---|---|---|---|---|
| **MASTER DEGREE GRANTING DEPARTMENTS.** | | | | | | | | |
| **WITHOUT DOCTORATE** | | | | | | | | |
| Instructor/Lecturer | 290 | 29 | 154 | 14 | 289 | 29 | 149 | 13 |
| Assistant Professor | 245 | 201 | 52 | 43 | 253 | 193 | 54 | 39 |
| Associate Professor | 177 | 169 | 19 | 18 | 170 | 163 | 19 | 19 |
| Professor | 46 | 45 | 5 | 5 | 45 | 45 | 5 | 5 |
| | 758 | 444 | 230 | 80 | 757 | 430 | 227 | 76 |
| **WITH DOCTORATE** | | | | | | | | |
| Instructor/Lecturer | 35 | 0 | 7 | 0 | 36 | 1 | 6 | 0 |
| Assistant Professor | 506 | 93 | 71 | 7 | 548 | 85 | 82 | 10 |
| Associate Professor | 775 | 692 | 65 | 53 | 783 | 687 | 71 | 54 |
| Professor | 797 | 788 | 48 | 47 | 848 | 831 | 54 | 52 |
| | 2113 | 1573 | 191 | 107 | 2215 | 1604 | 213 | 116 |
| **BACHELOR DEGREE GRANTING DEPARTMENTS.** | | | | | | | | |
| **WITHOUT DOCTORATE** | | | | | | | | |
| Instructor/Lecturer | 307 | 6 | 153 | 2 | 298 | 8 | 143 | 2 |
| Assistant Professor | 267 | 139 | 54 | 28 | 286 | 130 | 62 | 28 |
| Associate Professor | 240 | 216 | 30 | 25 | 236 | 210 | 28 | 24 |
| Professor | 87 | 84 | 8 | 8 | 85 | 83 | 7 | 7 |
| | 901 | 445 | 245 | 63 | 905 | 431 | 240 | 61 |
| **WITH DOCTORATE** | | | | | | | | |
| Instructor/Lecturer | 17 | 1 | 3 | 0 | 19 | 1 | 5 | 1 |
| Assistant Professor | 425 | 47 | 78 | 5 | 444 | 50 | 88 | 8 |
| Associate Professor | 549 | 444 | 57 | 41 | 562 | 450 | 59 | 41 |
| Professor | 514 | 491 | 34 | 31 | 546 | 522 | 34 | 31 |
| | 1505 | 983 | 172 | 77 | 1571 | 1023 | 186 | 81 |

# SALARIES
(in hundreds of dollars)

| | 1981–1982 Minimum | Median | Maximum | 1982–1983 Minimum | Median | Maximum |
|---|---|---|---|---|---|---|
| **MASTER DEGREE GRANTING DEPARTMENTS.** (159 of 347 reporting including 6 of 20 Canadian Departments) | | | | | | |
| **WITHOUT DOCTORATE** | | | | | | |
| Instructor/Lecturer | 100(133-170) | (142-180) | (145-191)248 | 110(140-173) | (147-184) | (153-200)260 |
| Assistant Professor | 164(185-218) | (195-232) | (200-238)291 | 160(195-236) | (207-247) | (219-259)311 |
| Associate Professor | 184(215-266) | (225-272) | (234-281)349 | 195(229-284) | (237-285) | (248-299)370 |
| Professor | 230(253-333) | (253-340) | (259-350)449 | 247(268-332) | (270-348) | (270-367)499 |
| **WITH DOCTORATE** | | | | | | |
| Instructor/Lecturer | --- | --- | --- | --- | --- | --- |
| Assistant Professor | 155(176-208) | (185-224) | (200-242)360 | 140(189-220) | (203-235) | (219-268)370 |
| Associate Professor | 170(213-244) | (232-264) | (251-300)396 | 190(225-260) | (247-285) | (266-321)413 |
| Professor | 204(257-305) | (289-341) | (311-383)482 | 202(270-323) | (302-362) | (340-410)503 |
| **BACHELOR DEGREE GRANTING DEPARTMENTS.** (393 of 1064 reporting including 9 of 33 Canadian Departments) | | | | | | |
| **WITHOUT DOCTORATE** | | | | | | |
| Instructor/Lecturer | 95(140-160) | (140-162) | (140-173)247 | 103(145-180) | (152-185) | (160-191)295 |
| Assistant Professor | 120(162-211) | (168-219) | (175-230)304 | 120(173-227) | (181-235) | (185-245)346 |
| Associate Professor | 128(192-245) | (197-250) | (200-257)443 | 138(209-261) | (210-270) | (213-280)500 |
| Professor | 181(243-336) | (243-336) | (243-342)413 | 205(259-332) | (259-344) | (259-355)445 |
| **WITH DOCTORATE** | | | | | | |
| Instructor/Lecturer | --- | --- | --- | --- | --- | --- |
| Assistant Professor | 143(170-200) | (175-208) | (180-220)321 | 143(183-218) | (190-229) | (195-235)385 |
| Associate Professor | 143(204-247) | (209-260) | (215-275)417 | 148(217-266) | (224-277) | (229-296)450 |
| Professor | 135(239-299) | (250-313) | (260-338)535 | 140(250-321) | (264-333) | (270-360)514 |

634

# Report on the 1982 Survey of New Doctorates

## by Donald C. Rung

This report presents a statistical profile of new doctorates in the mathematical sciences. It includes the employment status of recipients of 1981-1982 doctorates in the mathematical sciences, and a breakdown according to their sex, racial/ethnic group, and citizenship. In addition, trends in the number of doctoral degrees in the mathematical sciences are reported for each group of departments as defined by the 1969 American Council on Education survey (described on the first page of this report of the 1982 Survey).

The number of new doctorates reported for 1981-1982 is 860, which is within two of the lowest number of new doctorates reported over the last 15 years. The 1979-1980 report listed 858 new doctorates. Last year's total of 904 gave some hope that the number of new doctorates was now increasing, but this year's number belies this belief. For comparison purposes all figures are taken from the survey reported each year in the November *Notices*. A second updated report on the employment status of the 1981-1982 doctorates is planned for the February or April 1983 issue of the *Notices*. It is clear that the demand is now somewhat in excess of the supply. As of August 1982, there were only 32 doctorates reported as still seeking employment (the same total as last year) and, if past experience holds, most will find employment later this year. Based upon these reports over the last three years and the increased demand for doctorates reported in the *Employment Information in the Mathematical Sciences*, the author believes that an increase in the number of new doctorates to a level of 950 per year is necessary to meet the demand, especially in the more applicable areas.

The percentage of new doctorates who are women decreased from 16.4% in 1980-1981 to 12.9% in 1981-1982. This is about the same percentage as reported in 1979-1980. In absolute numbers there were 111 women who received doctorates in 1981-1982 as compared to 148 in 1980-1981. It is interesting to

TABLE 1: 1981-1982 Employment Status of New Doctorates in the Mathematical Sciences

| Type of Employer | PURE MATHEMATICS | | | | | Statistics | Computer Science | Operations Research | Applied Mathematics | Mathematics Education | Other | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Algebra and Number Theory | Analysis and Functional Analysis | Geometry and Topology | Logic | Probability | | | | | | | |
| Group I | 17 | 15 | 20 | 2 | 3 | 2 | 1 | | 4 | | 1 | 65 |
| Group II | 15 | 10 | 6 | | 4 | 2 | 2 | 1 | 6 | | | 46 |
| Group III | 8 | 12 | 6 | | 3 | 8 | 2 | 1 | 15 | | 1 | 56 |
| Group IV | | | | | | 34 | | 1 | 1 | | | 36 |
| Group V | | | | 1 | 1 | 1 | 25 | 5 | 1 | | 2 | 36 |
| Masters | 11 | 22 | 10 | 3 | 2 | 11 | 4 | 2 | 9 | | 2 | 76 |
| Bachelors | 20 | 13 | 6 | 2 | 1 | 5 | | | 6 | 2 | 3 | 58 |
| Two-year College or High School | 2 | 1 | 1 | | | 1 | | | | 4 | 1 | 10 |
| Other Academic Departments | | 4 | 2 | | 3 | 24 | 6 | 10 | 11 | 1 | 5 | 66 |
| Research Institutes | 3 | 7 | 4 | | | 7 | | 2 | 9 | | 2 | 34 |
| Government | 3 | | 2 | | | 8 | 2 | 1 | 5 | | | 21 |
| Business and Industry | 3 | 9 | 5 | 3 | 3 | 35 | 40 | 12 | 18 | | 6 | 134 |
| Canada, Academic | 3 | 1 | 3 | 2 | | 6 | 3 | 3 | 3 | | 6 | 30 |
| Canada, Nonacademic | 1 | | | | | 2 | | 2 | | | | 5 |
| Foreign, Academic | 8 | 8 | 4 | 2 | 1 | 25 | 10 | 9 | 5 | | 3 | 75 |
| Foreign, Nonacademic | 3 | 8 | 2 | | 1 | 8 | 3 | 3 | 4 | | 1 | 33 |
| Not seeking employ. | | 1 | 1 | | | 2 | | 1 | 1 | | 2 | 8 |
| Not yet employed | 4 | 6 | 3 | 1 | 2 | 5 | 2 | 2 | 5 | | 2 | 32 |
| Unknown | 4 | 7 | 3 | | 1 | 12 | 5 | 3 | 2 | | 2 | 39 |
| Total | 105 | 124 | 78 | 16 | 25 | 198 | 105 | 58 | 105 | 7 | 39 | 860 |

note that the percentage still seeking employment was about the same (3.9%) for both men and women. This percentage is the lowest in recent years and indicates that employment opportunities continue to be good.

The number of those employed by government business and industry fell from 178 to 155, perhaps reflecting recessionary times.

It should be noted that the reported number of new doctorates conferred by Group V departments which include computer science is considerably less than the actual number. It may be that the numbers reported to the AMS represent less than one-half of the total! It is estimated that in 1979-1980 there were 218 doctorates in the computer sciences (February 1982 *Notices*, page 148) while our figure in the November 1980 *Notices* was 90.

**Employment Status of New Doctorates, 1981-1982.** Table 1 shows the employment status, by type of employer and field of degree, of 860 recipients of doctoral degrees conferred by mathematical sciences departments in the U.S. and Canada between July 1, 1981 and June 30, 1982. These 860 individuals are listed, with their thesis titles, later in this report.

In rows 1 through 5, the numbers who accepted appointments in U.S. doctorate-granting mathematical sciences departments (Groups I-V) are given. In the next two rows, the figures represent those accepting appointments in U.S. mathematical sciences departments granting masters and bachelors degrees

only. The information was obtained both from the departments granting the degrees and from questionnaires subsequently completed by about 43% of the recipients themselves.

Among those 1981-1982 new doctorates employed in the U.S. about 59% took positions in university or college mathematical sciences departments. About 24% took positions in government, business, and industry, while the remaining 17% are in two-year colleges, high schools, other academic departments, or research institutes. These figures are similar to those reported last year.

Table 1 shows as "not yet employed" about 3.9% of the 1981-1982 new doctorates (this excludes those whose employment status is unknown, and those not seeking employment). This is the same figure as last year. The data in Table 1 were in many instances obtained early in the summer of 1982 and do not reflect subsequent hiring during the summer; an update of Table 1 is planned for the February or April 1983 *Notices*. A similar update last year revealed that nearly all new 1980-1981 doctorates not yet employed by early summer subsequently found positions by Fall 1981. (See the *Notices*, November 1981, page 613 and February 1982, page 145.) Only eleven individuals included in Table 1 were reported as having taken part-time employment.

**Sex, Race, and Citizenship of New Doctorates, 1981-1982.** Table 2 below represents a breakdown according to sex, racial/ethnic group, and citizenship of these 860 new doctorates. The information summarized in Table 2 was obtained from department heads and in some cases from recipients themselves.

### TABLE 2: Sex, Minority Group, and Citizenship of New Doctorates

July 1, 1981—June 30, 1982

| U.S. DEGREES | MEN | | | | | WOMEN | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | CITIZENSHIP | | | | | CITIZENSHIP | | | | | |
| RACIAL/ETHNIC GROUP | U.S. | Canada | Other | Not Known | Total Men | U.S. | Canada | Other | Not Known | Total Women | |
| Asian, Pacific Islander | 19 | 3 | 94 | 7 | 123 | 5 | | 6 | 1 | 12 | 135 |
| Black | 5 | | 7 | | 12 | 2 | | | | 2 | 14 |
| American Indian, Eskimo, Aleut | | | | | | | | | | | |
| Mexican American, Chicano, Puerto Rican | 2 | | 6 | | 8 | | | | | | 8 |
| None of those above | 371 | 10 | 131 | 2 | 514 | 77 | | 10 | | 87 | 601 |
| Unknown | 34 | 2 | 8 | 1 | 45 | 4 | | 2 | | 6 | 51 |
| Total Number | 431 | 15 | 246 | 10 | 702 | 88 | | 18 | 1 | 107 | 809 |

| CANADIAN DEGREES | MEN | | | | | WOMEN | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | CITIZENSHIP | | | | | CITIZENSHIP | | | | | |
| RACIAL/ETHNIC GROUP | U.S. | Canada | Other | Not Known | Total Men | U.S. | Canada | Other | Not Known | Total Women | |
| Asian, Pacific Islander | | 1 | 15 | | 16 | | | | | | 16 |
| Black | | | | | | | | | | | |
| American Indian, Eskimo, Aleut | | | | | | | | | | | |
| Mexican American, Chicano, Puerto Rican | | | | | | | | | | | |
| None of those above | 1 | 11 | 12 | | 24 | | 3 | | | 3 | 27 |
| Unknown | | 5 | | 2 | 7 | | 1 | | | 1 | 8 |
| Total Number | 1 | 17 | 27 | 2 | 47 | | 4 | | | 4 | 51 |

Analysis of the 1981-1982 employment forms for the new U.S. doctorates indicates that 10% of those employed by Groups I, II and III departments are women, as compared to 12% last year. Of the new doctorates employed by bachelors and masters degree-granting departments 16% are women, while of those employed by government, business, and industry 13% are women.

**Trends in the Number of New Doctorates.** Table 3 gives the number of doctorates granted during 1979-1980, 1980-1981, and 1981-1982 by those departments in Groups I-VI, *which reported in all three years* (as of August 15, 1982). The number of such departments is indicated in parentheses.

Table 3 seems to indicate that the decline in new doctorates over last year is shared by each group except for group IV.

**TABLE 3: Number of New Mathematical Sciences Doctorates Reported by Selected Departments**

|  | 79-80 | 80-81 | 81-82 |
|---|---|---|---|
| Group I (26 depts.) | 243 | 210 | 198 |
| Group II (30 depts.) | 113 | 101 | 98 |
| Group III (66 depts.) | 143 | 142 | 131 |
| Subtotal | 499 | 453 | 427 |
| Group IV (39 depts.) | 102 | 146 | 144 |
| Group V (32 depts.) | 120 | 118 | 109 |
| Group VI (20 depts.) | 65 | 47 | 34 |
| Subtotal | 287 | 311 | 287 |
| TOTAL | 786 | 764 | 714 |

# Salary Survey for New Recipients of Doctorates

The figures for 1982 in this article were compiled from questionnaires sent to individuals who received a doctorate in the mathematical sciences during the 1981-1982 academic year from universities in the United States and Canada.

Questionnaires requesting information on salaries and professional experience were distributed to 705 recipients of degrees using addresses provided by the departments which granted the degrees. Of these, 9 were returned by the postal service as undeliverable and could not be forwarded. There were 371 individuals who returned forms between late June and early September. The tables below are based on the responses from 335 of these individuals (285 men and 50 women). Data from 36 responses were not used in the compilation of the tables below; forms with insufficient data, or from individuals who had indicated they had part-time employment, were not yet employed, or were not seeking employment were considered unusable.

Readers should be warned that the data in this report are obtained from a self-selected sample and inferences from them may not be representative of the population. More comprehensive information on the number, the sex-minority group status-citizenship, and the employment status of the recipients of new doctorates granted last year in the mathematical sciences in the U.S. and Canada may be found in the previous article of this report on the 1982 Survey.

**Key to Tables.** *Salaries* are listed in hundreds of dollars. *Years* listed refer to the academic year ending in the listed year. *M* and *F* are Male and Female respectively. *One year experience* means that the persons had experience limited to one year or less in the same position or a position similar to the one reported; some persons receiving a doctorate had been employed in their present position for several years. $(X + Y)$ means there are $X$ *men and* $Y$ *women* in the 1982 sample. Quartile figures are given only in cases where the number of responses is large enough to make them meaningful.

## NINE-MONTH SALARIES

### TEACHING OR TEACHING AND RESEARCH (161 + 24)

| Year | Min. | $Q_1$ | Median | $Q_3$ | Max. |
|---|---|---|---|---|---|
| 1978 | 92 | 135 | 145 | 159 | 211 |
| 1979 | 100 | 145 | 157 | 170 | 234 |
| 1980 | 105 | 155 | 171 | 185 | 250 |
| 1981 | 130 | 175 | 190 | 210 | 320 |
| 1982 | 160 | 190 | 206 | 229 | 370 |
| 1978M | 100 | 135 | 145 | 160 | 211 |
| 1978F | 92 | 131 | 145 | 151 | 195 |
| 1979M | 100 | 145 | 158 | 170 | 234 |
| 1979F | 115 | 145 | 152 | 171 | 200 |
| 1980M | 120 | 155 | 171 | 185 | 250 |
| 1980F | 105 | 151 | 164 | 198 | 210 |
| 1981M | 130 | 175 | 190 | 210 | 320 |
| 1981F | 146 | 177 | 195 | 216 | 300 |
| 1982M | 160 | 192 | 210 | 229 | 370 |
| 1982F | 160 | 175 | 198 | 225 | 285 |
| One year experience (139 + 20) | | | | | |
| 1982M | 160 | 191 | 209 | 222 | 311 |
| 1982F | 160 | 183 | 200 | 225 | 285 |

### RESEARCH (3 + 1)

| Year | Min. | $Q_1$ | Median | $Q_3$ | Max. |
|---|---|---|---|---|---|
| 1978 | 120 | | – | | 125 |
| 1979 | 110 | | 132 | | 160 |
| 1980 | 125 | | 137 | | 180 |
| 1981 | 143 | | – | | 145 |
| 1982 | 180 | | 190 | | 235 |
| 1978M | 120 | | – | 125 | 125 |
| 1978F | – | | – | | – |
| 1979M | 110 | | 132 | | 160 |
| 1979F | – | | – | | – |
| 1980M | 125 | | 137 | | 180 |
| 1980F | – | | – | | – |
| 1981M | 143 | | – | | 145 |
| 1981F | – | | 145 | | – |
| 1982M | 180 | | 190 | | 190 |
| 1982F | – | | 235 | | – |
| One year experience (3 + 0) | | | | | |
| 1982M | 180 | | 190 | | 190 |
| 1982F | – | | – | | – |

## TWELVE-MONTH SALARIES

### TEACHING OR TEACHING AND RESEARCH (35 + 8)

| Year | Min. | Median | Max. |
|---|---|---|---|
| 1978 | 101 | 185 | 290 |
| 1979 | 120 | 195 | 240 |
| 1980 | 143 | 195 | 350 |
| 1981 | 156 | 203 | 400 |
| 1982 | 100 | 250 | 500 |
| 1978M | 101 | 180 | 290 |
| 1978F | 187 | 195 | 223 |
| 1979M | 120 | 188 | 240 |
| 1979F | 210 | 233 | 240 |
| 1980M | 143 | 190 | 350 |
| 1980F | 147 | 200 | 220 |
| 1981M | 156 | 200 | 400 |
| 1981F | 165 | 213 | 290 |
| 1982M | 180 | 250 | 500 |
| 1982F | 100 | 266 | 367 |
| One year experience (25 + 5) | | | |
| 1982M | 180 | 240 | 310 |
| 1982F | 230 | 252 | 291 |

### RESEARCH (18 + 4)

| Year | Min. | Median | Max. |
|---|---|---|---|
| 1978 | 100 | 185 | 248 |
| 1979 | 100 | 174 | 271 |
| 1980 | 120 | 180 | 321 |
| 1981 | 140 | 200 | 280 |
| 1982 | 130 | 245 | 364 |
| 1978M | 100 | 187 | 248 |
| 1978F | – | 180 | – |
| 1979M | 100 | 174 | 271 |
| 1979F | – | – | – |
| 1980M | 120 | 180 | 321 |
| 1980F | 178 | 200 | 264 |
| 1981M | 140 | 200 | 280 |
| 1981F | 150 | 168 | 200 |
| 1982M | 144 | 230 | 336 |
| 1982F | 130 | 265 | 364 |
| One year experience (15 + 4) | | | |
| 1982M | 144 | 230 | 336 |
| 1982F | 130 | 265 | 364 |

### GOVERNMENT (15 + 2)

| Year | Min. | Median | Max. |
|---|---|---|---|
| 1978 | 170 | 220 | 320 |
| 1979 | 180 | 243 | 357 |
| 1980 | 156 | 244 | 501 |
| 1981 | 220 | 290 | 460 |
| 1982 | 228 | 325 | 470 |
| 1978M | 170 | 220 | 320 |
| 1978F | 170 | 200 | 250 |
| 1979M | 180 | 254 | 357 |
| 1979F | 190 | 231 | 256 |
| 1980M | 156 | 230 | 501 |
| 1980F | 205 | 247 | 280 |
| 1981M | 220 | 294 | 400 |
| 1981F | 252 | 269 | 460 |
| 1982M | 228 | 331 | 470 |
| 1982F | 282 | 326 | 369 |
| One year experience (10 + 2) | | | |
| 1982M | 228 | 331 | 416 |
| 1982F | 282 | 326 | 369 |

### BUSINESS AND INDUSTRY (53 + 11)

| Year | Min. | Median | Max. |
|---|---|---|---|
| 1978 | 145 | 240 | 387 |
| 1979 | 140 | 254 | 380 |
| 1980 | 190 | 284 | 400 |
| 1981 | 195 | 308 | 500 |
| 1982 | 196 | 354 | 550 |
| 1978M | 145 | 246 | 387 |
| 1978F | 180 | 210 | 251 |
| 1979M | 140 | 251 | 380 |
| 1979F | 200 | 255 | 350 |
| 1980M | 190 | 284 | 400 |
| 1980F | 218 | 283 | 345 |
| 1981M | 195 | 319 | 500 |
| 1981F | 226 | 290 | 358 |
| 1982M | 196 | 366 | 550 |
| 1982F | 230 | 350 | 430 |
| One year experience (32 + 10) | | | |
| 1982M | 243 | 355 | 418 |
| 1982F | 230 | 347 | 400 |