20TH ANNUAL 1976 AMS SURVEY

FIRST REPORT

The following pages contain a first report on the 1976 AMS Survey. Included in this issue are data on faculty salaries in four-year colleges and universities, a report on the 1976 survey of new doctorates, and a list of the names and thesis titles of the members of the 1975-1976 Ph. D. class.

In 1976 the distribution of some of the questionnaires for the Annual AMS Survey was postponed several months in order to make it possible to obtain more current data on two-year colleges, fall enrollments, class size, teaching loads and faculty mobility than were obtained in previous years. These data will be included in a second report on the 1976 AMS Survey which is planned for the February or April 1977 issue of the CNotices).

This Survey is the twentieth 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 David Blackwell, Charles W. Curtis, Wendell H. Fleming (chairman), Martha K. Smith, and Daniel H. Wagner. The data were compiled by the AMS staff under the direction of Lincoln K. Durst, with advice from Richard D. Anderson representing the data subcommittee of CEEP.

Faculty Salaries

As has been the practice for several years, questionnaires were sent to departments in the mathematical sciences, asking for information on salaries. Departments submitted a minimum, median, and maximum salary figure for each of four academic ranks, both for staff members with and without doctorates. Annual salaries of full-time faculty members for the academic year of 9--10 months were sought. The 1976 questionnaire requested information for both the years 1975-1976 and 1976-1977. The sample in this survey is thus the same for both years and is different from the sample used in the Nineteenth Salary Survey in 1975. The information reported this year on the number of faculty members is based on usable returns from 788 departments in the mathematical sciences, 76 of which did not contain usable salary information. In the following three pages the data in the parentheses give the range of the middle fifty percent of salaries reported. The figures outside the parentheses represent the minimum and maximum salary listed by any reporting institution. In some categories, relatively few departments reported and, inasmuch as there were no significant figures available, salaries are not listed.

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 follows:

Group I and Group II include the leading departments of mathematics in the U.S.A. according to the findings of the American Council of Education in 1969* in which departments were ranked according to the quality of their graduate faculty. Group I is composed of the 27 departments ranked highest; Group II is made up of the other 38 leading departments listed in that report.

 $\underline{\text{Group III}}$ contains all other U.S.A. departments of mathematics.

 $\underline{\text{Group IV}}$ includes U.S.A. departments of statistics, biostatistics and biometrics.

 $\underline{\text{Group }V}$ includes all other U.S.A. departments in the mathematical sciences.

Group VI consists of all departments in the mathematical sciences from Canadian universities

Although Canadian doctorate granting departments are grouped separately, those granting bachelor and master degrees are included with U.S.A. departments.

NUMBER OF FACULTY REPORTED

The table below provides a summary of the number of faculty members reported on the faculty salary survey questionnaires. Readers should be aware of certain limitations on these figures as indicators of the size and composition of the North American mathematical sciences faculty: (1) The samples of responding departments in each category, being self-selected, cannot be assumed to be random samples. (2) Departments in each category differ greatly in size, so that extrapolation based on the sample size is not simple. Last year figures were provided to indicate how great some of these deviations actually are (these Notices), October 1975, page 303, column 2, last paragraph). (3) The faculty salary questionnaires carry instructions to omit faculty members on sabbatical leaves; this may result in fluctuations in the number of faculty members in a given department from one year to another, possibly on an order of magnitude of ten percent.

TOTAL FACULTY REPORTED FOR FOUR-YEAR COLLEGES AND UNIVERSITIES

	FAC	1975 ULTY	5–1976 WC	OMEN	FAC	1976 ULTY	5–1977 WC	MEN
	Total	With Tenure	Total	With Tenure	Total	With Tenure	Total	With Tenure
WITHOUT DOCTORATE Instructor Assistant Professor Associate Professor Professor	459 789 553 198 1,999	72 617 531 185 1,405	$ \begin{array}{r} 179 \\ 193 \\ 67 \\ \underline{13} \\ 452 \end{array} $	$ \begin{array}{r} 24 \\ 156 \\ 66 \\ \underline{13} \\ \overline{259} \end{array} $	$ \begin{array}{r} 396 \\ 743 \\ 548 \\ \underline{200} \\ 1,887 \end{array} $	$ \begin{array}{r} 65 \\ 585 \\ 524 \\ 186 \\ \hline 1,360 \end{array} $	$ \begin{array}{c} 148 \\ 193 \\ 69 \\ \underline{15} \\ 425 \end{array} $	$ \begin{array}{r} 25 \\ 148 \\ 68 \\ \underline{15} \\ \overline{256} \end{array} $
MITH DOCTORATE Instructor Assistant Professor Associate Professor Professor	181 2,536 2,913 3,012 8,642	$ 3 $ 387 2,611 2,963 $ \overline{5},964$	30 221 154 124 $\overline{529}$	$ \begin{array}{r} 1 \\ 39 \\ 144 \\ \underline{119} \\ \overline{303} \end{array} $	183 2,451 3,024 3,176 8,834	5 406 2,713 3,132 6,256	$ \begin{array}{r} 27 \\ 235 \\ 163 \\ \underline{119} \\ \overline{544} \end{array} $	$ \begin{array}{r} 2 \\ 45 \\ 150 \\ \underline{117} \\ 314 \end{array} $

^{*}The findings were published in "A Rating of Graduate Programs" by Kenneth D. Roose and Charles J. Andersen, American Council of Education, Washington, D. C., 1969, 115 pp. The information on mathematics was reprinted by the Society and can be found on pages 338-340 of the February 1971 issue of these Notices).

					~		m	3 4 4 0		1248		ဝတ္ က တ
		Maximum			(123–144)148 (151–175)185 (200–240)254 (373–420)450		(110–147)168	(115-130)135 (155-179)197 (202-236)277 (343-398)473		(95-129)148 (141-165)187 (175-202)255 (192-320)371	. ,	(100-124)130 (154-171)198 (195-218)255 (263-334)418
	1976–1977	Median			(123–140) (140–159) (180–200) (264–305)		(109-146)	(114-125) (139-154) (181-201) (259-288)		(94-124) (137-158) (169-198) (187-285)		(100-124) (140-156) (177-192) (225-267)
SALARIES	ollars)	Minimum			116(123-140) 125(130-150) 150(160-182) 182(200-226)		100(104-134)	95 (110–125) 119 (125–143) 145 (164–182) 155 (200–227)		72(94-117) 112(123-154) 141(157-191) 169(183-285)		79(100-124) $105(125-145)$ $138(158-174)$ $168(194-223)$
SALA		Махітит			(116–138)140 (149–171)175 (180–220)240 (360–414)426		(99–142)166 	(110-125)133 (150-174)235 (192-230)277 (326-370)460		(94-124)141 (135-164)180 (157-191)237 (187-310)354		(93-115)128 (150-165)194 (185-210)253 (258-326)394
	1975–1976	Median			(116–135) (131–155) (172–185) (254–310)		(99–136)	(110–125) (136–156) (171–191) (246–275)		(90-118) (129-158) (155-183) (182-310)		(93-111) (136-150) (171-188) (220-253)
	_	Minimum			115 (116–132) 110 (120–143) 148 (155–172) 176 (190–225)		45(95-125)	100(105-125) 94(120-135) 135(155-173) 147(191-219)		67(90-118) 103(124-156) 137(145-173) 169(178-310)		85 (93-110) 105 (120-140) 139 (152-169) 156 (188-210)
	Z	With	rting)	0	0 3 19	rting)	2 1 0 12	$\frac{1}{12}$	rting)	26 5 0 40		0 3 26 50
	~	Total Tel	(19 out of 27 reporting)	3 1 2	3 7 36	(30 out of 38 reporting)	8 1 0 6	6 112 10 42	91 reporting	23 26 5 0		39 29 21 93
	1976-1977 ULTY WO		out of	0 1	$\begin{array}{c} 0 \\ 8 \\ 160 \\ 545 \\ \hline 713 \end{array}$	out of	5 2 13	$0 \\ 340 \\ 433 \\ 782$	out of	13 87 65 20 185		$0 \\ 72 \\ 636 \\ \overline{587} \\ 1295$
CULTY	FAC	With Total Tenure	(19	8 1 4	58 166 171 546 941	(30	21 8 32	55 240 361 438 1094	1 (72	59 90 67 21 237		23 432 676 599 1730
SIZE OF FA	7	th ure	Group I	0 1 1	0 8 9	Group II	3 0 2 1	$\begin{array}{c} 0 \\ 2 \\ 112 \\ \hline 10 \\ 24 \end{array}$	Group II	9 6 6 1 43		23 4 0 50 50
SIZE	1976 WOMEN	With Total Tenure		2 -1 6	8 16 6 39		111 22 131	$\frac{5}{19}$ $\frac{10}{46}$		27 28 6 1		39 24 24 91
	1975–1976 JLTY WOA	With	PARTM	0 1 1	$\begin{array}{c} 0 \\ 6 \\ 524 \\ \hline 696 \end{array}$	EPARTM	4 5 4 51	$\begin{array}{c} 0 \\ 14 \\ 330 \\ 421 \\ 765 \end{array}$	DEPARTMENTS.	15 91 67 19 192		0 81 598 547 1226
	197 FACULTY	Total	INC O	RATE 4	E 61 170 183 524 938	ATING D	28 8 8 4 40	253 253 358 427 1083		ORATE 65 94 69 20 20	LE	30 477 645 556 1708
			DOCTORATE GRANTING DEPARTMENTS.	WITHOUT DOCTORATE histructor A	WITH DOCTORATE Instructor Asst. Prof. Asso. Prof. Professor	DOCTORATE GRANTING DEPARTMENTS.	WITHOUT DOCTORATE Instructor 28 Asst. Prof. 8 Asso. Prof. 4	WITH DOCTORATE instructor Asst. Prof. Asso. Prof. Professor	DOCTORATE GRANTING	WITHOUT DOCTORATE Instructor 65 Asst, Prof. 94 Asso, Prof. 69 Professor 20 Professor 248	WITH DOCTORATE	Instructor Asst. Prof. Asso. Prof. Professor

		 152-189)220 195-237)260 (310-370)415			 (160-190)214 (199-237)291 (300-370)437		 (216-276)310 	170–207)283 222–263)314 (247–422)465
		(145–163) (1171–214) (1772–164) (1772–1			(150–171) (1 (195–216) (1 (258–300) (3		 (203–262) (2	(154–184) (1 (197–241) (2 (247–320) (2
		129(135–155) 133(167–205) 172(227–267)			100(140-160) 122(177-197) 155(216-265)		 152(172–255) 	128(134-170) 152(172-203) 200(225-260)
		(143–171)205 (188–227)275 (285–354)400			(152–182)198 (186–220)261 (280–345)393		(196–252)281	(154-176)220 (203-247)291 (226-403)443
		(135–156) (176–202) (256–290)			 (145–162) (183–205) (243–278)		(182-237)	(145-174) (177-223) (226-307)
		110(129-148) 145(161-197) 159(222-260)			100(135-150) 122(168-187) 149(205-250)		 140(157–233)	116 (121–152) 140 (159–188) 188 (208–254)
rting)	3 0 1 2 0	0 2 6 6 14	porting)	0 0 0 0 0 0 0 0 0	00448	orting)	0 22 20 0	1 2 2 0
(41 out of 65 reporting)	0 1 2 3	11977	(36 out of 103 reporting)	3 0 0 5 1	12 4 4 4 21	(17 out of 33 reporting	10	0 7 6 0 13
out of	0 8 2 4 6	$\begin{array}{c} 0 \\ 5 \\ 201 \\ \hline 305 \end{array}$	out of	0 4 4 7 1 5 1 6	$\begin{array}{c} 0 \\ 2 \\ 103 \\ 187 \\ \hline 292 \end{array}$	out of	$\begin{array}{c} 0 \\ 13 \\ 26 \\ \hline 7 \\ \hline 46 \end{array}$	$0 \\ 44 \\ 237 \\ 176 \\ \hline 457$
	10 6 2 4 4 22	$ \begin{array}{c} 4 \\ 127 \\ 124 \\ \hline 204 \\ \hline 459 \\ \end{array} $	(36	28	$\begin{array}{c} 4 \\ 203 \\ 123 \\ \hline 188 \\ \hline 518 \end{array}$	_	5 21 26 7 7	$\begin{array}{c} 2\\156\\261\\176\\\overline{595}\end{array}$
Proup IV	0 1 1 0 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	0 1 5 12	Group V	0 1 0 0 1	0 0 4 8 2	Group VI	0 3 21 0	0 8 4 0
ENTS.	4 6 1 0 8	1 14 6 6		20053	111 4 4 4 50		20 0 21	0 9 14
FPARTM	0 1 2 4 2	$0 \\ 4 \\ 108 \\ 306$	EPARTM	0 5 7 7 17	$\begin{array}{c} 0 \\ 2 \\ 101 \\ 181 \\ \hline 284 \end{array}$	DEPARTMENTS	$\frac{1}{12}$ $\frac{29}{51}$	$ \begin{array}{c} 0 \\ 42 \\ 238 \\ 163 \\ 443 \end{array} $
ANTING D	ORATE 18 8 2 2 4 4	$ \begin{array}{c} 118 \\ 118 \\ 131 \\ 197 \\ 448 \end{array} $	ANTING D	FORATE 10 9 9 7 7 31	ATE 8 201 115 182 506		FORATE 11 16 29 9	165 253 163 163 581
DOCTORATE GRANTING DEPARTMENTS. Group IV	WITHOUT DOCTORATE Instructor 18 Asst. Prof. 8 Asso. Prof. 2 Professor 4	WITH DOCTORATE Instructor Asst. Prof. Asso. Prof. Professor	DOCTORATE GRANTING DEPARTMENTS.	WITHOUT DOCTORATE Instructor 10 Asst. Prof. 9 Asso. Prof. 7 Professor 5	WITH DOCTORATE Instructor Asst, Prof. Asso. Prof. Professor	DOCTORATE GRANTING	WITHOUT DOCTORATE Instructor 11 Asst. Prof. 16 Asso. Prof. 29 Professor 9 Professor 65	WITH DOCTORATE Instructor Asst. Prof. Asso. Prof. Professor

		SIZ 1975—1976	SIZE 1976	SIZE OF FA	FACULTY 19	ry 1976–1977	1977				SAL/ (in hundrea	SALARIES (in hundreds of dollars)		
	FACULTY	JITY	WOMEN	Z	FACULTY	ZI :	WOMEN	Z	-	1975-1976			1976-1977	
	Total	With	Total Ten	With Tenure	Total T	With	Total Te	Vern	Minimum	Median	Махітит	Minimum	Median	Махітит
MASTER DEGREE GRANTING DEPARTMENTS	RANTIR	IG DEP/	ARTMEN	IS	(18.	1 out o	(181 out of 341 reporting)	porting	g)					
WITHOUT DOCTORATE Instructor 200 Asst. Prof. 353	200 353	39 308 919	81 90 28	11 82 28	180 333	36 288 215	72 92	11 77 32	72(97-120) 97(119-139) 123(139-165)	(98–123) (125–148) (143–172)	(100-131)182 $(133-159)211$ $(149-181)270$	80(101-127) 97(127-149) 125(148-176)	$\begin{array}{c} (105-128) \\ (130-156) \\ (154-181) \end{array}$	$\begin{array}{c} (105 - 135)191 \\ (138 - 167)237 \\ (161 - 191)280 \end{array}$
Professor	54 829	54 620	$\frac{20}{201}$	123	252	55 594	$\frac{4}{200}$	$\frac{4}{124}$	160(175-225)	(180-229)	(182-232)320	160(184-246)	(191–246)	(197-251)340
WITH DOCTORATE Instructor Asst. Prof. Asso. Prof. Professor	25 670 844 611 2150	3 155 765 600 1523	9 68 67 34 178	$\frac{1}{17}$ $\frac{34}{116}$	$ \begin{array}{c} 24 \\ 646 \\ 890 \\ 658 \\ \hline 2218 \\ 1 \end{array} $	$ \begin{array}{c} 3 \\ 172 \\ 809 \\ 650 \\ \hline 1634 \end{array} $	68 68 37 183	$\begin{array}{c} 1\\24\\64\\37\\126\end{array}$	85 (120–135) 85 (123–145) 106 (149–169) 100 (184–220)	(120–137) (135–151) (162–190) (196–231)	(120-137)188 (141-162)230 (170-202)277 (210-259)353	90(112-132) 85(130-149) 110(156-177) 100(190-229)	(112–142) (139–159) (168–190) (205–231)	(112-142)188 (145-168)236 (178-209)292 (224-270)340
BACHELOR DEGREE GRANTING DEPARTMENTS	GRAN	TING D	EPARTM	ENTS	(39)	2 out o	(392 out of 1025 reporting)	reporti	ng)					
WITHOUT DOCTORATE Instructor 123 Asst. Prof. 301 Asso. Prof. 219 Professor 106 749	RATE 123 301 219 106 749	$ \begin{array}{c} 13 \\ 195 \\ 202 \\ \hline 94 \\ \hline 504 \end{array} $	47 63 28 10 148	$\frac{3}{27}$	$ \begin{array}{c} 109 \\ 278 \\ 223 \\ \hline 718 \\ \end{array} $	$ \begin{array}{c} 11 \\ 185 \\ 205 \\ \hline 496 \end{array} $	$\frac{37}{27}$	3 36 26 11 76	76(108-135) 95(120-159) 60(150-201)	(111-139) (127-160) (150-206)	(114-145)218 (130-167)269 (154-206)316	80(111-143) 95(125-168) 70(160-210)	(117-147) (131-171) (160-213)	(120–155)234 (135–174)269 (160–213)340
WITH DOCTORATE Instructor Asst. Prof. Asso. Prof.	10 482 384 352	83 305 333	45 30 37	0 26 34 34	13 481 418 367	329 353 101	6 30 32	10 26 30	95(116-134) 101(136-162) 110(163-207)	(120–138) (140–168) (165–221)	(120–145)202 (142–173)255 (168–230)335	98 (120–140) 105 (141–171) 115 (171–216)	(125–145) (144–176) (173–234)	(128–154)202 (146–181)267 (177–245)343

The Annual Survey (First Report), 1976 Starting Salary Survey for New Recipients of the Doctorate

The latest figures in this Survey were compiled from questionnaires sent to individuals who received a doctorate in the mathematical sciences during the 1975–1976 academic year from universities in the United States and Canada. This year no attempt was made to obtain information from individuals who were reported to have left the U.S.A. or Canada.

A total of 914 questionnaires was distributed to recipients of degrees using addresses provided by the departments which granted the degrees. Of these, 20 were returned by the postal service as undeliverable and could not be forwarded. Of the 469 which were returned between late June and early September, 419 (371 men and 48 women) were used in the tables below. Of the unused returns, 17 did not have sufficient information for use in this compilation, 20 persons (17 men and 3 women) reported that they were not yet employed, 4 persons (2 men and 2 women) were not seeking employment and 8 persons (5 men and 3 women) had accepted part-time employment.

Of the doctorates included in this report, 80% accepted academic positions, 11% positions in business or industry and 9% in government, including federal, state and provincial governments. Of those reporting academic positions, 189 held positions in doctorate granting depart-

ments, 60 in departments granting masters as the highest degree, 60 in bachelor granting departments, 14 in two-year colleges. In addition to those included in the tables below, 2 accepted administrative positions in a university and 1 in a public school system.

Of all those reporting, including those whose questionnaires were not usable in the salary compilations, 88% accepted positions in the United States, 8% in Canada, and 4% were seeking employment at the time of reporting.

KEY TO TABLE

Salaries are listed in hundreds of dollars. Dashes indicate that not enough returns were received to warrant including the figures. Years listed refer to the academic year ending in the listed year. Mand 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 1976 sample. Quartile figures are given only in cases where the number of responses is large enough to make them meaningful.

NINE-MONTH SALARIES

TWELVE-MONT	H SA	LA	RIES
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						70.07.5	Tradian	Morr
Year Min. Q_1 Median Q_3	Max.	Year Mi	n. Median	Max.	Year	Min.	Median	Max.
TEACHING OR TEACHING AND RESE	ARCH	TEACHING	G OR TEACH	ING	GOVER	NMENT	(36 + 3)	
(223 + 33)		AND RESI	EARCH (53 +	9)				
(223 + 33)				185	1974	120	197	287
1974 85 115 121 135	200	2012	90 138		1975	78	182	247
1975 90 120 128 135	173		37 145	204	1976	115	194	270
1976 85 124 133 145	245		00 155	270	1974M	120	199	287
1974M 85 115 124 137	200		90 146	185	1974M 1974F	-	177	_
1974F 90 108 115 120	145		06 126	145	1974F 1975M	150	185	247
1975M 90 120 130 137	173		87 145	204	1975M 1975F	78	100	145
1975F 95 120 126 135	160		45 –	185		118	194	270
1976M 93 125 134 145	245		00 150	270	1976M	115	194	200
1976F 85 120 125 145	168		00 174	240	1976F			
One year experience (181 + 29)		One year	experience (4	5 + 7)			rience (24	240
1976M 93 123 130 140	240	1975M 1	00 148	270	1976M	118	170	194
1976F 85 118 125 145		1975F 1	15 174	240	1976F	115	_	194
19701 85 116 126 216								
		RESEARC	CH (8 + 1)		BUSINI	ESS ANI	D INDUST	RY
RESEARCH $(4 + 0)$				0.65		(45 +	2)	
1974 50 80	130		72 95	265	1974	140	190	251
1975 100 -	110		90 119	180	1974	114	187	240
1976 70 80	180		90 130	210	1976	120	205	400
1974M 50 81	130	20.22.2	72 95	265	$\frac{1976}{1974M}$	140	190	251
1974F - 70	_		90 -	180		150	156	190
1975M 100 -	110	1975M	90 119	180	1974F	$\frac{130}{114}$	189	$\frac{130}{240}$
1975F	- ,	1975F		-	1975M		175	224
1976M 70 80	180	1976M	90 121	210	1975F	120	206	400
1976F	-		- 195		1976M	120	200	200
		One year	experience (8	+ 1)	1976F	185		
One year experience (4 + 0) 1976M 70 80	180	1976M	90 121	210		ar expe	rience (3	
1976M 70 80		1976F	- 195		1976M	120	204	282
1976F		19701	- 195		1976F	185	_	200

Report on 1976 Survey of New Doctorates

by Wendell H. Fleming

This report concerns employment patterns for 1975-1976 mathematical science doctorates, trends in the number of Ph. D.'s granted, and sex, minority group status, and citizenship of new doctorates. The employment pattern for new doctorates has not greatly changed during the last three years. A slightly greater proportion took nonacademic employment this year. There was a noticeable drop in the number of Ph. D. degrees granted.

Employment Status of New Doctorates. Table 1 shows the employment status by type of employer and field of degree of the 1,046 new doc-

torates listed on pages 321-341 of this issue of the Notices In row 1 ("University"), the recipients are counted who accepted appointments in U.S. doctorate granting mathematical science departments (Groups I-V as defined on page 313). Similarly, in row 2 ("College"), the figures represent those accepting appointments in U.S. mathematical science departments granting bachelors and masters degrees only. The information was obtained from the departments granting degrees and from questionnaires subsequently completed by over 40% of the recipients themselves.

TABLE 1

1976-1977 EMPLOYMENT STATUS OF NEW DOCTORATES IN THE MATHEMATICAL SCIENCES

		/	PURE	MAT	HEM.	ATICS	s /					
Type of Employer	A_{Winb}^{I}	Analysis and	Geometry Tonetry	Logic And	Proba	Statistic Statistic	Computer Sciencer	Operations Research	Applied Mathe	Mathematics Educametic	Other	⁷ Or _{2ls}
University	39	48	28	12	16	46	27	2	34		11	263
College	43	37	27	7	6	17	21	1	18	4	8	189
Two-year colleges and high schools	8	5	1	2			1	1 .	3	7	1	29
Other academic de- partments and re- search institutes Government	4 7	1	4 2	2	2	20 22	13 10	6 7	9 13	1	2	64 69
Business and in- dustry	2	15	3	1	2	17	36	17	6		3	102
Canada	13	10	8	1	5	11	20	3	8		7	86
Foreign	10	16	13	5	4	28	3	6	12		3	100
Not seeking employ- ment	2	3	2				1			_	1	9
Not yet employed	30	19	12	1	1	12	7	3	8	1	3	97
Unknown	4	5	8	1	6	2	6	3	1	1	1	38
Totals	162	162	108	33	42	175	145	49	112	15	43	1,046

Among those 1975-1976 new doctorates employed in the U.S., 63% took positions in university or college mathematical science departments; this percentage is a slight decline from 67% for 1973-1974 new doctorates. The percentage of those who took positions in government, business, and industry, on the other hand, rose from 21% in 1973-1974 to 25% in 1975-1976.

Table 1 shows as "not yet employed" 11% of 1975-1976 new doctorates in the U.S.; this excludes those whose employment status is unknown. This percentage differs little from the corresponding percentages for new 1973-1974 and 1974-1975 doctorates, reported in these *cNotical* (November 1974, p. 335; November 1975, p. 357). Taken by itself, it suggests neither an improve-

ment nor a deterioration in the job market for new doctorates. The data in Table 1 were in many instances obtained in early summer 1976, and do not reflect subsequent hiring during the summer. An update is planned for a later issue of these cNotices, as part of a more complete report on the job market.

Trends in Numbers of Pure Mathematics Ph. D. 's. By pure mathematics degrees we refer to those on the left-hand side of Table 1. The number of Ph. D. degrees in pure mathematics granted by U. S. mathematics departments has declined significantly. Table 2 shows the number of pure mathematics Ph. D. 's granted by those departments which have reported in each of the past three years.

TABLE 2

		.]	CABLE 2		
	PURE	MATHE	MATICS	DOCTOR	RATES
					Drop 1973-1974
		1973- 1974	1974- 1975	1975- 1976	to 1975–1976
,	Group I Group II	$\begin{array}{c} 218 \\ 167 \end{array}$	275 158	$\begin{array}{c} 202 \\ 108 \end{array}$	7% 35%
	Group III	156	133	125	20%
	Total	541	566	435	20%

The 20% overall drop shown in Table 2 follows a drop of 23% in the previous two-year period (these Notices), November 1974, p. 337). Thus about 40% fewer Ph. D. 's in pure mathematics were granted in 1975-1976 than four years earlier. This decline parallels a drop in graduate enrollments for Groups I, II, and III reported in these Notices. February 1976, p. 109. The decline shown in Table 2 is less sharp for the toprated Group I departments, but especially severe in Group II. The rise from 1973-1974 to 1974-1975 shown for Group I seems to be an anomaly. The decline in numbers of pure mathematics Ph. D.'s granted by Group III departments is accompanied by a rise in numbers of Ph. D.'s in applied fields granted by departments in this group. This is seen by subtracting each Group III entry in Table 2 from the corresponding entry in

The totals in Table 2 do not represent all pure mathematics Ph. D.'s granted by Group I— III departments, since departments are not included which failed to report in at least one of the last three years. The missing departments together contribute perhaps 65 to 85 pure mathematics Ph. D.'s per year to the total.

Trends in Numbers of Mathematical Science Ph. D.'s, All Fields. Table 3 shows the number of doctorates in all fields granted by those mathematical science departments in the U.S. and Canada which have reported in each of the past three years.

TABLE 3

MATHEMATIC	AL SCIEN	CE DOCTOR.	ATES
	1973-	1974-	1975-
	1974	1975	1976
Group I	274	323	265
Group II	199	204	140
Group III	192		176
Total I, II, III	665	708	581
Group IV	132	139	$ \begin{array}{r} 143 \\ 144 \\ \hline 72 \end{array} $
Group V	162	181	
Group VI	85	<u>78</u>	
Total I-VI	1,044	1,106	940

There was a 10% drop in the total shown in Table 3 between 1973-1974 and 1975-1976. The rise between 1973-1974 and 1974-1975 seems an anomaly, contrary to the downward trend in total numbers of mathematical science Ph. D.'s since a peak in 1972. The percentage of degrees which are in pure mathematics has been steadily declining. Fewer than half of the 1975-1976 mathematical science Ph. D.'s are in pure mathematics.

Table 3 appears to reflect accurately trends for the last two years, except perhaps for Group V departments. In particular, the Group V row in Table 3 may not adequately reflect trends in the number of computer science Ph. D.'s, since several major departments granting such degrees are missing. The totals in Table 3 do not represent the total number of mathematical science Ph.D.'s granted, since Table 3 includes only departments reporting in each of the past three years. A reasonable estimate of the total number of Ph.D.'s (U.S. and Canada) would be in the 1,250-1,350 range for 1973-1974, falling to 1,150-1,250 for 1975-1976. In making such estimates it must be remembered that in applied fields it is not always clear which degrees belong in the mathematical sciences vs. (say) engineering. Moreover, AMS counts show only a small portion of Ph. D. degrees in mathematics education. Separate, essentially complete, counts by the NRC through 1972-1973, of numbers of U.S. Ph. D.'s in mathematics and related areas were reported in these Notices), October 1974, p. 254.

Sex, Race, and Citizenship of New Doctorates (July 1,1975—June 30,1976). The tables on the following page represent an analysis according to sex, minority group and citizenship of the group of 1,046 recipients of doctorates in the mathematical sciences from universities in the U.S. and Canada for the academic year 1975—1976. The information summarized in the tables was obtained from department heads and in some cases from recipients themselves.

TABLE 4
SEX, RACE, AND CITIZENSHIP OF NEW DOCTORATES
July 1, 1975-June 30, 1976

U. S. DEGREES		MI	EN				WOI	MEN			TOTAL
RACIAL/ETHNIC GROUP	U.S.	CITIZE Canada		Not Known	Total Men	U.S.	CITIZE Canada		Not Known	Total Women	
American Indian, Eskimo Black, Afro-American Mexican American, Puerto Rican	6 5		2		8 5	1				1	8
Oriental, Pacific Islander None of those above Not Known	12 549 64	9	84 119 8	2	96 677 74	2 77 6	1	8 12		10 90 6	106 767 80
Total Number	636	9	213	2	860	86	1	20		107	967

CANADIAN DEGREES		MI	EN				WOI	MEN			TOTAL
		CITIZE		Not	Total		CITIZE		Not	Total	
RACIAL/ETHNIC GROUP	U.S.	Canada	Other	Known	Men	U.S.	Canada	Other	Known	Women	
American Indian, Eskimo Black, Afro-American Mexican American, Puerto Rican		2	1		3						3
Oriental, Pacific Islander None of those above Not Known	7	1 15 12	7 12 5	3 4	11 34 22		1 3	1 4		1 5 3	12 39 25
Total Number	8	30	25	7	70		4	5		9	79

Table 4 shows that 11% of new U.S. 1975–1976 doctorates in the mathematical sciences are women. This compares with 9% in 1973–1974 and 10% in 1974–1975. About three-quarters of new 1975–1976 doctorates are U.S. citizens. This percentage has not changed much during the last three years. Table 4 shows only twenty-six new doctorates who are both U.S. citizens and members of a minority group listed there. As in previous years this number represents only a small percent of the total.

Among new 1975-1976 doctorates from U.S. universities employed by Group I-V departments, 13% are women. Among those employed by bachelors and masters degree granting departments,

13% are women. However only 4% of new doctorates employed by government, business, and industry are women.

Of the non-U.S. citizens who obtained a doctorate from a U.S. university, about one-fifth were reported as having permanent resident status in the U.S. Nearly 30% of those new doctorates who are neither U.S. citizens nor permanent residents were reported as employed in the U.S. for 1976-1977. This group includes many holding postdoctoral and other temporary appointments, plus perhaps others undergoing a change in visa status.