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March 8, 2021

Jake Winship
Associate Actuary
Oregon PERS

Re: 2020 IRC 415 Limit Factor Tables for Tier 1/Tier 2

Dear Jake:

As requested, we have prepared information to assist PERS in testing member benefits for compliance with IRC Section 415 for benefit limitation year 2020. This letter provides age-adjusted Section 415 limits for 2020, information needed for reflecting after-tax member contributions in the testing, and actuarial tables for adjusting certain member-selected optional forms of benefits into a single life annuity form for IRC Section 415 testing purposes for the 2020 benefit limitation year.

Note that the tables provided with this letter are intended for use with Tier 1 and Tier 2 members only. The interpretations described below are specific to the benefit provisions, compensation limitations and optional form adjustment factors applicable to Tier 1/Tier 2 members, and may not hold for OPSRP members. Further, we understand the likelihood of OPSRP members triggering 415 limit issues is very low, and PERS neither requires nor requests separate factors for OPSRP at this time.

The factors included with this letter are:

- Table 1: Age-adjusted IRC 415(b) limit – Not Qualified Police & Fire, No Late Retirement Increase
- Table 2: Age-adjusted IRC 415(b) limit – Qualified Police & Fire, No Late Retirement Increase
- Table 3: Age-adjusted IRC 415(b) limit – Not Qualified Police & Fire, Late Retirement Increase
- Table 4: Age-adjusted IRC 415(b) limit – Qualified Police & Fire, Late Retirement Increase
- Table 5: Conversion factors for accumulated after-tax employee contributions
- Table 6: Refund Annuity (Option 0) to Single Life Annuity (Option 1)
- Table 7: 15-Year Certain and Life Annuity (Option 4) to Single Life Annuity (Option 1)
- Table 8: 100% Joint and Survivor Annuity (Option 2) to Single Life Annuity (Option 1)
- Table 9: 50% Joint and Survivor Annuity (Option 3) to Single Life Annuity (Option 1)
- Table 10: 100% Joint and Survivor Annuity with Pop-up (Option 2a) Feature to Single Life Annuity (Option 1)
- Table 11: 50% Joint and Survivor Annuity with Pop-up (Option 3a) Feature to Single Life Annuity (Option 1)

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BACKGROUND

Our letter dated June 19, 2020 provided factor tables for preliminary testing of member benefits for limitation year 2019. We understand that the 415 limit testing does not reduce the actual benefit paid to any PERS member, but is necessary to identify situations where part of a benefit should be paid from the Benefit Equalization Fund (BEF) rather than the Oregon PERS Fund.

This letter provides updated factor tables for use with limitation year 2020. We understand PERS intends to use the attached factor tables to conduct an initial screening of current retirees to determine members near the 415 limit for a given benefit limitation year. With the exception of members who elected a Qualified Joint & Survivor Annuity (QJSA) form with the member's spouse as the contingent annuitant (as discussed in the next section), members who have elected a form of benefit **other** than the single life annuity (Option 1) should have their benefit converted to the actuarially equivalent single life annuity amount for comparison with the applicable 415 limit. The identified group will then be sent to Milliman for more refined testing.

The factors contained in the attached tables were developed on the basis described more fully below, which resulted from input provided by PERS and the guidance PERS received from Ice Miller regarding interpretation of 415 regulations as applied to Oregon PERS.

TABLES 1 -4: AGE-ADJUSTED IRC 415(B) LIMITS

In accordance with IRS Regulation 1.415(b)-1, the published annual dollar limit under 415(b)(1)(A) must be adjusted for annuity starting dates prior to age 62 or after age 65.

For ages prior to age 62, the age-adjusted limit is the smaller of:

- 1.) The actuarial equivalent of the age 62 limit, calculated using 5% interest and the IRS applicable mortality table under IRC 417(e).
- 2.) The age 62 limit multiplied by the plan's implied reduction factor. The implied reduction factor is the ratio of the plan's Option 1 benefit (before reflecting 415) at the benefit starting age to the Option 1 benefit (before reflecting 415) at age 62.

For calculation of the plan's implied reduction factor, we understand growth in a member's account balance between the benefit starting date and age 62 is ignored (which would affect a Money Match calculation). Under this interpretation, for Tier 1 and Tier 2 members it was determined that the first approach above produces the smaller limit, so that is what is reflected in Tables 1 through 4. The applicable mortality table under IRC 417(e) is updated annually, so amounts in the attached table reflect the 2020 applicable mortality table.

The reduction in the 415(b) limit for ages prior to 62 does not apply to members who are considered "qualified participants" under 415(b)(2)(G). For PERS, we understand the relevant type of qualified participant is a member with 15 or more years of service as a full-time employee of a police department or fire department that meets criteria specified in the Code. As a result, Tables 2 and 4 do not reduce the 415(b) limit prior to age 62 and are intended to apply to qualified police & fire members who satisfy the 415(b)(2)(G) definition.

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For ages after 65 the age-adjusted limit is the smaller of:

- 1.) The actuarial equivalent of the age 65 limit, calculated using 5% interest and the IRS applicable mortality table under IRC 417(e).
- 2.) The age 65 limit multiplied by the plan's implied adjustment factor. The implied adjustment factor is the ratio of the plan's Option 1 benefit (before reflecting 415) at the benefit starting age to the Option 1 benefit (before reflecting 415) at age 65.

For a member whose benefit is determined under Full Formula, we understand there is considered to be no late retirement increase factor, and so the implied adjustment factor is 1.0. As a result, the 415(b) limit is not increased for ages beyond 65. Tables 1 and 2 are meant for use in this situation.

For a member whose benefit is determined under Money Match, we understand the implied adjustment factor is based on the change in Option 1 factors between age 65 and the benefit commencement age. However, future growth in the account balance subsequent to age 65 is not reflected in the adjustment ratio. Tables 3 and 4 reflect this increase in the limit for ages after 65.

When determining an actuarial equivalent limit under IRS prescribed assumptions (5% and 417(e) mortality) for comparison to plan factors, the regulations provide that adjustments for pre-retirement death apply if a forfeiture occurs if the member dies prior to retirement. For Oregon PERS, we understand that the extent of forfeiture – if any – that occurs on death may vary based on individual circumstances, including whether size of the member's account balance and whether Full Formula or Money Match provides a greater benefit.

As directed by PERS after discussions with PERS staff, we have reflected a mortality adjustment in developing the pre-62 limits in Tables 1 and 3. We understand PERS will apply these values even to participants where it would be possible to demonstrate no forfeiture occurs upon pre-retirement death. Because reflecting a mortality adjustment in the pre-62 age-adjusted limit produces a lower limit than if no mortality adjustment is included, this treatment is considered conservative in the sense of making it more likely a benefit is judged to exceed the limit. The preamble to the current 415 regulations permits plan sponsors to follow this approach and apply a mortality adjustment even when no forfeiture occurs.

Note that the post-65 age-adjusted limit is determined by the plan factors, which produce a lower limit than would be developed on the IRS actuarial equivalent basis regardless of the mortality treatment.

In accordance with OAR 459-005-0535(3)(a) and our understanding that the PERS COLA qualifies for the exception for certain automatic benefit increase features under the 415 regulations, the limits do not reflect any adjustment for post-retirement cost-of-living increases.

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TREATMENT OF AFTER-TAX EMPLOYEE CONTRIBUTIONS

The 415 regulations specify that the annual benefit tested against the adjusted limit excludes benefits attributable to certain employee contributions. We understand for Oregon PERS, this means benefits attributable to after-tax employee contributions should be excluded from the benefit tested. The regulations specify the basis on which such contributions will be accumulated and converted into an equivalent benefit to deduct from the gross benefit. The interest rates described below and the factors in Table 5 provide the information needed to perform this step.

INTEREST RATES FOR ACCUMULATING AFTER-TAX EMPLOYEE CONTRIBUTIONS

The first step in determining the benefit offset for employee contributions under 415 is to accumulate the contributions to the annuity starting date using rates specified in IRC 411(c). These rates are:

- Prior to January 1, 1976: use the rate specified in the plan document. We understand for Oregon PERS, this means 8%.
- From January 1, 1976 to December 31, 1987: use 5%
- From January 1, 1988 to the annuity starting date: use 120% of the mid-term applicable federal rate published for the first month of a plan year
- From the annuity starting date to normal retirement date (if applicable): applicable rates under IRC 417(e)

The rates for years through 2019 were provided in the relevant prior letters. The rate for 2020 is 2.03%. We understand PERS will use these rates to determine the accumulated after-tax contribution.

TABLE 5: CONVERSION FACTORS FOR ACCUMULATED AFTER-TAX EMPLOYEE CONTRIBUTIONS

Once the accumulated value of after-tax contributions has been determined in accordance with IRC 411(c), the second step is to convert the value into a single life annuity using the applicable IRC 417(e) interest rates and applicable mortality table for the limitation year. Table 5 provides factors on this basis using the 417(e) assumptions applicable to limitation year 2020. In determining applicable interest rates we have used the November prior to the limitation year for the look-back month, as discussed. The factors in the table are shown as the amount of monthly straight life annuity per \$1,000 of accumulated after-tax employee contributions.

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CONVERTING TO SINGLE LIFE ANNUITY FOR 415 TESTING

The factors provided in the Tables 6 through 11 are intended for use in performing the adjustment to a single life annuity for benefit forms to which section 417(e)(3) does not apply, as described in 1.415(b)-1(c)(2). According to the regulation, the actuarially equivalent single life annuity benefit to be used for testing is the greater of:

1. The annual amount of the single life annuity payable under the plan, or
2. The annual amount obtained by converting the benefit payable to the participant to a single life annuity using 5% interest and the IRS required mortality table under 1.417(e)-1(d)(2).

The factors provided in the tables accompanying this letter can be used to determine the second item above. PERS will need to compare the resulting amount to the actual single life annuity (Option 1 benefit) payable to the member at the annuity starting date, and use the greater number for 415 testing.

For members who have elected a Qualified Joint and Survivor Annuity (QJSA) where the contingent annuitant is a surviving spouse, no conversion is necessary. Conversion is required for:

- Members who elected a non-QJSA form of benefit (whether or not the beneficiary is a spouse), and
- Members who elected a contingent annuitant who is not a surviving spouse.

TABLE 6: CONVERSION FROM REFUND ANNUITY

Members have the option of electing a refund annuity (Option 0). The actuarial equivalency factors provided in Table 6 should be used to convert the Option 0 optional form of benefit to the single life annuity (Option 1) for comparison to the applicable 415 limit.

Note that the factors provided in these tables should only be applied to the account balance-based portion of the member's benefit. For a member whose final benefit was determined by the Money Match calculation, the factors can be applied to the total benefit. However, for a member for whom the Full Formula calculation determined the final benefit, the relevant factor should only be applied to the appropriate account-based portion of the final benefit. An example is shown below to illustrate.

Assume a 58 year-old member has a final monthly benefit determined by the Full Formula calculation of \$14,000 as an Option 0 refund annuity. If this member has a \$75,000 member account at retirement, we understand the benefit can be deconstructed (using 2020 actuarial equivalent Option 0 actuarial equivalency factors) into two parts:

Member account-related benefit: $\$75,000/\$1,000 \times 6.75 = \$506.25$

Non-account-related benefit: $\$14,000 - \$506.25 = \$13,493.75$

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In this example, 6.75 is the relevant age 58 Option 0 factor per \$1,000 of account balance from the January 1, 2020 actuarial equivalency tables.

The age 58 factor from the attached Table 6 is 1.065. Therefore, the conversion to a single life annuity for 415 testing would be:

$$\$506.25 \times 1.065 + \$13,493.75 = \$14,032.91$$

The monthly amount of \$14,032.91 is then compared to the benefit that would have been payable to this member as a single life annuity (Option 1) under the plan terms. The **larger** of these two amounts should be annualized and tested against the appropriate age-adjusted 415 limit.

Factors are provided for retirees between the ages of 15 and 100. If a member age falls outside of this range, please contact us so that we can provide the correct conversion factor.

TABLE 7: CONVERSION FROM 15-YEAR CERTAIN AND LIFE ANNUITY

Members have the option of electing a 15-year certain & life annuity (Option 4). The actuarial equivalency factors provided in these tables should be used to convert the optional form of benefit to the single life annuity (Option 1) for comparison to the applicable age-adjusted 415 limit. Factors are provided for retirees between the ages of 15 and 100. If a member age falls outside of this range, please contact us so that we can provide the correct conversion factor.

TABLES 8 - 11: CONVERSION FROM JOINT & SURVIVOR FORMS

Members also have the option of electing an optional form of benefit that provides a survivor benefit equal to 50 percent or 100 percent of the member's benefit, with or without a pop-up feature. The actuarial equivalency factors provided in these tables should be used to convert the optional form of benefit to the single life annuity (Option 1) for comparison to the applicable age-adjusted 415 limit. Factors are provided for retirees between the ages of 45 and 84 with beneficiaries up to 20 years younger or older than the retiree. If a member/beneficiary age combination falls outside of this range, please contact us so that we can provide the correct conversion factor.

These tables are structured by age difference between retiree and beneficiary. If you would like the tables in a different format, please let us know.

CALCULATION BASIS

The factors accompanying this letter were developed for the purpose of assisting Oregon PERS to complete initial testing of member benefits against 415 limits for limitation year 2020. They were developed based on our understanding of federal regulations and interpretations made by Oregon PERS and Ice Miller regarding applying the regulations to the system, as described above.

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Where the age-adjusted 415 limit is increased beyond age 65 to reflect plan factors (Table 3 and 4), the increase is based on Option 1 factors in effect for the relevant limitation year. The development of such factors is described in the letters accompanying the relevant actuarial equivalency factors.

Our analysis and conclusions are based on our understanding of the request and the interpretations, methods and assumptions described above. Differences in these factors may produce different results.

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The consultants who worked on this assignment are retirement actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuaries are independent of the plan sponsor. We are not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the principles prescribed by the Actuarial Standards Board and the *Code of Professional Conduct and Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States* published by the American Academy of Actuaries. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

If you have any questions about the attached tables or need any additional information, please let us know.

Sincerely,



Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary



Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

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Oregon Public Employees Retirement System
IRC 415 for Limitation Year 2020

	<u>Table 1:</u>	<u>Table 2:</u>	<u>Table 3:</u>	<u>Table 4:</u>	<u>Table 5:</u>
	NOT Considered Qualified Police & Fire Under IRC Category: 415(b)(2)(G)	Qualified Police & Fire Under IRC 415(b)(2)(G)	NOT Considered Qualified Police & Fire Under IRC 415(b)(2)(G)	Qualified Police & Fire Under IRC 415(b)(2)(G)	Amount of Monthly Straight Life Annuity (Option 1) per \$1,000 of After-Tax Employee Contributions
	<i>Limits Reflect No Actuarial Increase for Late Retirement</i>		<i>Limits Reflect Actuarial Increase for Late Retirement</i>		
Age					
45	76,016	230,000	76,016	230,000	3.88
46	80,615	230,000	80,615	230,000	3.93
47	85,540	230,000	85,540	230,000	3.98
48	90,821	230,000	90,821	230,000	4.03
49	96,490	230,000	96,490	230,000	4.08
50	102,583	230,000	102,583	230,000	4.14
51	109,139	230,000	109,139	230,000	4.20
52	116,204	230,000	116,204	230,000	4.26
53	123,829	230,000	123,829	230,000	4.33
54	132,071	230,000	132,071	230,000	4.41
55	140,993	230,000	140,993	230,000	4.48
56	150,668	230,000	150,668	230,000	4.57
57	161,179	230,000	161,179	230,000	4.65
58	172,616	230,000	172,616	230,000	4.75
59	185,087	230,000	185,087	230,000	4.84
60	198,712	230,000	198,712	230,000	4.95
61	213,630	230,000	213,630	230,000	5.06
62	230,000	230,000	230,000	230,000	5.18
63	230,000	230,000	230,000	230,000	5.30
64	230,000	230,000	230,000	230,000	5.43
65	230,000	230,000	230,000	230,000	5.58
66	230,000	230,000	234,528	234,528	5.73
67	230,000	230,000	239,055	239,055	5.89
68	230,000	230,000	244,186	244,186	6.07
69	230,000	230,000	249,921	249,921	6.26
70	230,000	230,000	255,958	255,958	6.46
71	230,000	230,000	262,598	262,598	6.68
72	230,000	230,000	269,541	269,541	6.93
73	230,000	230,000	277,388	277,388	7.19
74	230,000	230,000	286,142	286,142	7.47
75	230,000	230,000	295,499	295,499	7.79
76	230,000	230,000	305,761	305,761	8.13
77	230,000	230,000	316,929	316,929	8.50
78	230,000	230,000	329,304	329,304	8.91
79	230,000	230,000	342,887	342,887	9.35
80	230,000	230,000	357,677	357,677	9.84
81	230,000	230,000	373,976	373,976	10.37
82	230,000	230,000	392,087	392,087	10.96
83	230,000	230,000	412,008	412,008	11.60
84	230,000	230,000	433,740	433,740	12.31
85	230,000	230,000	457,585	457,585	13.08

For adjustments prior to age 62, based on applicable IRC 417(e) mortality for the limitation year and 5% interest.

No adjustment prior to age 62 for members considered Qualified Police and Fire.

No adjustment after age 65, as factors apply to members who would receive no increase for late retirement.

For adjustments prior to age 62, based on applicable IRC 417(e) mortality for the limitation year and 5% interest.

No adjustment prior to age 62 for members considered Qualified Police and Fire.

For adjustments after age 65, based on implied plan late retirement increase factors based on Option 1 factors.

Based on 417(e) applicable interest (November look-back) and mortality for the limitation year.

1st segment: 2.04%
2nd segment: 3.09%
3rd segment: 3.68%

Oregon Public Employees Retirement System
IRC 415 for Limitation Year 2020

Table 6: Convert from Refund Annuity to Single Life Annuity
 (Factor Multiplied by Option 0 Annuity)

Age	Months of Attained Age at Retirement											
	0	1	2	3	4	5	6	7	8	9	10	11
15	1.002	1.002	1.002	1.002	1.002	1.002	1.003	1.003	1.003	1.003	1.003	1.003
16	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003
17	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003
18	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003
19	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003
20	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003
21	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003
22	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003
23	1.003	1.003	1.003	1.003	1.003	1.003	1.004	1.004	1.004	1.004	1.004	1.004
24	1.004	1.004	1.004	1.004	1.004	1.004	1.004	1.004	1.004	1.004	1.004	1.004
25	1.004	1.004	1.004	1.004	1.004	1.004	1.004	1.004	1.004	1.004	1.004	1.004
26	1.004	1.004	1.004	1.004	1.004	1.004	1.004	1.004	1.004	1.004	1.004	1.004
27	1.004	1.004	1.004	1.004	1.004	1.004	1.004	1.004	1.004	1.004	1.004	1.004
28	1.004	1.004	1.004	1.004	1.004	1.004	1.005	1.005	1.005	1.005	1.005	1.005
29	1.005	1.005	1.005	1.005	1.005	1.005	1.005	1.005	1.005	1.005	1.005	1.005
30	1.005	1.005	1.005	1.005	1.005	1.005	1.005	1.005	1.005	1.005	1.005	1.005
31	1.005	1.005	1.005	1.005	1.005	1.005	1.006	1.006	1.006	1.006	1.006	1.006
32	1.006	1.006	1.006	1.006	1.006	1.006	1.006	1.006	1.006	1.006	1.006	1.006
33	1.006	1.006	1.006	1.006	1.006	1.006	1.007	1.007	1.007	1.007	1.007	1.007
34	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.007
35	1.007	1.007	1.007	1.007	1.007	1.007	1.008	1.008	1.008	1.008	1.008	1.008
36	1.008	1.008	1.008	1.008	1.008	1.008	1.009	1.009	1.009	1.009	1.009	1.009
37	1.009	1.009	1.009	1.009	1.009	1.009	1.010	1.010	1.010	1.010	1.010	1.010
38	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010
39	1.010	1.010	1.010	1.010	1.010	1.010	1.011	1.011	1.011	1.011	1.011	1.011
40	1.011	1.011	1.011	1.012	1.012	1.012	1.012	1.012	1.012	1.013	1.013	1.013
41	1.013	1.013	1.013	1.013	1.013	1.013	1.014	1.014	1.014	1.014	1.014	1.014
42	1.014	1.014	1.014	1.014	1.014	1.014	1.015	1.015	1.015	1.015	1.015	1.015
43	1.015	1.015	1.015	1.016	1.016	1.016	1.016	1.016	1.016	1.017	1.017	1.017
44	1.017	1.017	1.017	1.018	1.018	1.018	1.018	1.018	1.018	1.019	1.019	1.019
45	1.019	1.019	1.019	1.020	1.020	1.020	1.020	1.020	1.020	1.021	1.021	1.021
46	1.021	1.021	1.021	1.022	1.022	1.022	1.022	1.022	1.022	1.023	1.023	1.023
47	1.023	1.023	1.023	1.024	1.024	1.024	1.024	1.024	1.024	1.025	1.025	1.025
48	1.025	1.025	1.026	1.026	1.026	1.026	1.027	1.027	1.027	1.027	1.028	1.028
49	1.028	1.028	1.029	1.029	1.029	1.029	1.030	1.030	1.030	1.030	1.031	1.031
50	1.031	1.031	1.032	1.032	1.032	1.032	1.033	1.033	1.033	1.033	1.034	1.034
51	1.034	1.034	1.035	1.035	1.035	1.036	1.036	1.036	1.037	1.037	1.037	1.038
52	1.038	1.038	1.039	1.039	1.039	1.039	1.040	1.040	1.040	1.040	1.041	1.041
53	1.041	1.041	1.042	1.042	1.043	1.043	1.044	1.044	1.044	1.045	1.045	1.046
54	1.046	1.046	1.047	1.047	1.047	1.048	1.048	1.048	1.049	1.049	1.049	1.050
55	1.050	1.050	1.051	1.051	1.052	1.052	1.053	1.053	1.053	1.054	1.054	1.055
56	1.055	1.055	1.056	1.056	1.057	1.057	1.058	1.058	1.058	1.059	1.059	1.060
57	1.060	1.060	1.061	1.061	1.062	1.062	1.063	1.063	1.063	1.064	1.064	1.065
58	1.065	1.066	1.066	1.067	1.067	1.068	1.068	1.069	1.069	1.070	1.070	1.071
59	1.071	1.072	1.072	1.073	1.073	1.074	1.074	1.075	1.075	1.076	1.076	1.077
60	1.077	1.078	1.078	1.079	1.079	1.080	1.081	1.081	1.082	1.082	1.083	1.083
61	1.084	1.085	1.085	1.086	1.086	1.087	1.087	1.088	1.088	1.089	1.089	1.090
62	1.090	1.091	1.091	1.092	1.092	1.093	1.094	1.094	1.095	1.095	1.096	1.096
63	1.097	1.098	1.098	1.099	1.100	1.100	1.101	1.102	1.102	1.103	1.104	1.104
64	1.105	1.106	1.106	1.107	1.108	1.108	1.109	1.110	1.110	1.111	1.112	1.112
65	1.113	1.114	1.115	1.115	1.116	1.117	1.118	1.118	1.119	1.120	1.121	1.121
66	1.122	1.123	1.124	1.124	1.125	1.126	1.127	1.127	1.128	1.129	1.130	1.130
67	1.131	1.132	1.133	1.134	1.134	1.135	1.136	1.137	1.138	1.139	1.139	1.140
68	1.141	1.142	1.143	1.144	1.145	1.146	1.147	1.147	1.148	1.149	1.150	1.151
69	1.152	1.153	1.154	1.155	1.156	1.157	1.158	1.159	1.160	1.161	1.162	1.163
70	1.164	1.165	1.166	1.167	1.168	1.169	1.171	1.172	1.173	1.174	1.175	1.176
71	1.177	1.178	1.179	1.181	1.182	1.183	1.184	1.185	1.186	1.188	1.189	1.190
72	1.191	1.192	1.194	1.195	1.196	1.197	1.199	1.200	1.201	1.202	1.204	1.205
73	1.206	1.208	1.209	1.211	1.212	1.214	1.215	1.217	1.218	1.220	1.221	1.223
74	1.224	1.226	1.227	1.229	1.230	1.232	1.233	1.235	1.236	1.238	1.239	1.241
75	1.242	1.244	1.245	1.247	1.249	1.250	1.252	1.254	1.255	1.257	1.259	1.260
76	1.262	1.264	1.266	1.268	1.270	1.272	1.274	1.275	1.277	1.279	1.281	1.283
77	1.285	1.287	1.289	1.291	1.293	1.295	1.297	1.299	1.301	1.303	1.305	1.307
78	1.309	1.311	1.313	1.316	1.318	1.320	1.322	1.324	1.326	1.329	1.331	1.333
79	1.335	1.337	1.340	1.342	1.345	1.347	1.350	1.352	1.354	1.357	1.359	1.362
80	1.364	1.367	1.369	1.372	1.374	1.377	1.380	1.382	1.385	1.387	1.390	1.392
81	1.395	1.398	1.401	1.404	1.406	1.409	1.412	1.415	1.418	1.421	1.423	1.426
82	1.429	1.432	1.435	1.439	1.442	1.445	1.448	1.451	1.454	1.458	1.461	1.464
83	1.467	1.470	1.474	1.477	1.480	1.483	1.487	1.490	1.493	1.496	1.500	1.503
84	1.506	1.510	1.513	1.517	1.520	1.524	1.528	1.531	1.535	1.538	1.542	1.545
85	1.549	1.553	1.557	1.560	1.564	1.568	1.572	1.575	1.579	1.583	1.587	1.590
86	1.594	1.598	1.602	1.605	1.609	1.613	1.617	1.620	1.624	1.628	1.632	1.635
87	1.639	1.643	1.647	1.651	1.655	1.659	1.663	1.667	1.671	1.675	1.679	1.683
88	1.687	1.691	1.695	1.699	1.703	1.707	1.711	1.715	1.719	1.723	1.727	1.731
89	1.735	1.739	1.742	1.746	1.749	1.753	1.757	1.760	1.764	1.767	1.771	1.774
90	1.778	1.782	1.785	1.789	1.793	1.796	1.800	1.804	1.807	1.811	1.815	1.818
91	1.822	1.825	1.829	1.832	1.835	1.839	1.842	1.845	1.849	1.852	1.855	1.859
92	1.862	1.865	1.868	1.871	1.874	1.877	1.880	1.882	1.885	1.888	1.891	1.894
93	1.897	1.900	1.903	1.907	1.910	1.913	1.916	1.919	1.922	1.926	1.929	1.932
94	1.935	1.938	1.941	1.945	1.948	1.951	1.954	1.957	1.960	1.964	1.967	1.970
95	1.973	1.975	1.978	1.980	1.982	1.985	1.987	1.989	1.992	1.994	1.996	1.999
96	2.001	2.003	2.006	2.008	2.011	2.013	2.016	2.018	2.020	2.023	2.025	2.028
97	2.030	2.032	2.035	2.037	2.039	2.042	2.044	2.046	2.049	2.051	2.053	2.056
98	2.058	2.060	2.061	2.063	2.065	2.066	2.068	2.070	2.071	2.073	2.075	2.076
99	2.078	2.079	2.080	2.081	2.082	2.083	2.085	2.086	2.087	2.088	2.089	2.090
100	2.091											

Mortality Table: 417(e) Applicable Mortality
 Interest Rate: 5.00%, with 2.00% COLA

Oregon Public Employees Retirement System
IRC 415 for Limitation Year 2020

Table 7: Convert from 15-Year Certain and Life Annuity to Single Life Annuity
 (Factor Multiplied by Option 4 Annuity)

Age	Months of Attained Age at Retirement											
	0	1	2	3	4	5	6	7	8	9	10	11
15	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
16	1.000	1.000	1.000	1.000	1.000	1.000	1.001	1.001	1.001	1.001	1.001	1.001
17	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001
18	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001
19	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001
20	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001
21	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001
22	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001
23	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001
24	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001
25	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001
26	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001
27	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001
28	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001
29	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001
30	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001
31	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001
32	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001
33	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001
34	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001
35	1.001	1.001	1.001	1.001	1.001	1.001	1.002	1.002	1.002	1.002	1.002	1.002
36	1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.002
37	1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.002
38	1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.002
39	1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.002
40	1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.002
41	1.002	1.002	1.002	1.002	1.002	1.002	1.003	1.003	1.003	1.003	1.003	1.003
42	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003
43	1.003	1.003	1.003	1.003	1.003	1.003	1.004	1.004	1.004	1.004	1.004	1.004
44	1.004	1.004	1.004	1.004	1.004	1.004	1.004	1.004	1.004	1.004	1.004	1.004
45	1.004	1.004	1.004	1.004	1.004	1.004	1.005	1.005	1.005	1.005	1.005	1.005
46	1.005	1.005	1.005	1.005	1.005	1.005	1.005	1.005	1.005	1.005	1.005	1.005
47	1.005	1.005	1.005	1.005	1.005	1.005	1.006	1.006	1.006	1.006	1.006	1.006
48	1.006	1.006	1.006	1.006	1.006	1.006	1.007	1.007	1.007	1.007	1.007	1.007
49	1.007	1.007	1.007	1.007	1.007	1.007	1.008	1.008	1.008	1.008	1.008	1.008
50	1.008	1.008	1.008	1.009	1.009	1.009	1.009	1.009	1.009	1.010	1.010	1.010
51	1.010	1.010	1.010	1.010	1.010	1.010	1.011	1.011	1.011	1.011	1.011	1.011
52	1.011	1.011	1.011	1.012	1.012	1.012	1.012	1.012	1.012	1.013	1.013	1.013
53	1.013	1.013	1.013	1.014	1.014	1.014	1.014	1.014	1.014	1.015	1.015	1.015
54	1.015	1.015	1.016	1.016	1.016	1.016	1.017	1.017	1.017	1.017	1.018	1.018
55	1.018	1.018	1.019	1.019	1.019	1.019	1.020	1.020	1.020	1.020	1.021	1.021
56	1.021	1.021	1.022	1.022	1.022	1.022	1.023	1.023	1.023	1.023	1.024	1.024
57	1.024	1.024	1.025	1.025	1.025	1.025	1.026	1.026	1.026	1.026	1.027	1.027
58	1.027	1.027	1.028	1.028	1.028	1.029	1.029	1.029	1.030	1.030	1.030	1.031
59	1.031	1.031	1.032	1.032	1.033	1.033	1.034	1.034	1.034	1.035	1.035	1.036
60	1.036	1.036	1.037	1.037	1.038	1.038	1.039	1.039	1.039	1.040	1.040	1.041
61	1.041	1.041	1.042	1.042	1.043	1.043	1.044	1.044	1.044	1.045	1.045	1.046
62	1.046	1.047	1.047	1.048	1.048	1.049	1.049	1.050	1.050	1.051	1.051	1.052
63	1.052	1.053	1.053	1.054	1.054	1.055	1.056	1.056	1.057	1.057	1.058	1.058
64	1.059	1.060	1.060	1.061	1.062	1.062	1.063	1.064	1.064	1.065	1.066	1.066
65	1.067	1.068	1.069	1.069	1.070	1.071	1.072	1.072	1.073	1.074	1.075	1.075
66	1.076	1.077	1.078	1.079	1.079	1.080	1.081	1.082	1.083	1.084	1.084	1.085
67	1.086	1.087	1.088	1.089	1.090	1.091	1.092	1.093	1.094	1.095	1.096	1.097
68	1.098	1.099	1.100	1.101	1.102	1.103	1.105	1.106	1.107	1.108	1.109	1.110
69	1.111	1.112	1.114	1.115	1.116	1.118	1.119	1.120	1.122	1.123	1.124	1.126
70	1.127	1.129	1.130	1.132	1.133	1.135	1.136	1.138	1.139	1.141	1.142	1.144
71	1.145	1.147	1.149	1.150	1.152	1.154	1.156	1.157	1.159	1.161	1.163	1.164
72	1.166	1.168	1.170	1.172	1.174	1.176	1.178	1.180	1.182	1.184	1.186	1.188
73	1.190	1.192	1.195	1.197	1.199	1.201	1.204	1.206	1.208	1.210	1.213	1.215
74	1.217	1.220	1.222	1.225	1.228	1.230	1.233	1.236	1.238	1.241	1.244	1.246
75	1.249	1.252	1.255	1.258	1.261	1.264	1.268	1.271	1.274	1.277	1.280	1.283
76	1.286	1.290	1.293	1.297	1.300	1.304	1.307	1.311	1.314	1.318	1.321	1.325
77	1.328	1.332	1.336	1.340	1.344	1.348	1.353	1.357	1.361	1.365	1.369	1.373
78	1.377	1.382	1.386	1.391	1.395	1.400	1.405	1.409	1.414	1.418	1.423	1.427
79	1.432	1.437	1.442	1.448	1.453	1.458	1.463	1.468	1.473	1.479	1.484	1.489
80	1.494	1.500	1.506	1.512	1.517	1.523	1.529	1.535	1.541	1.547	1.552	1.558
81	1.564	1.571	1.577	1.584	1.591	1.597	1.604	1.611	1.617	1.624	1.631	1.637
82	1.644	1.651	1.659	1.666	1.674	1.681	1.689	1.696	1.703	1.711	1.718	1.726
83	1.733	1.741	1.750	1.758	1.766	1.774	1.783	1.791	1.799	1.807	1.816	1.824
84	1.832	1.841	1.851	1.860	1.869	1.878	1.888	1.897	1.906	1.915	1.925	1.934
85	1.943	1.953	1.963	1.974	1.984	1.994	2.004	2.014	2.024	2.035	2.045	2.055
86	2.065	2.076	2.088	2.099	2.110	2.121	2.133	2.144	2.155	2.166	2.178	2.189
87	2.200	2.212	2.225	2.237	2.249	2.262	2.274	2.286	2.299	2.311	2.323	2.336
88	2.348	2.361	2.375	2.388	2.401	2.415	2.428	2.441	2.455	2.468	2.481	2.495
89	2.508	2.522	2.537	2.551	2.566	2.580	2.595	2.609	2.623	2.638	2.652	2.667
90	2.681	2.696	2.712	2.727	2.743	2.758	2.774	2.789	2.804	2.820	2.835	2.851
91	2.866	2.882	2.899	2.915	2.931	2.948	2.964	2.980	2.997	3.013	3.029	3.046
92	3.062	3.079	3.096	3.114	3.131	3.148	3.165	3.182	3.199	3.217	3.234	3.251
93	3.268	3.286	3.304	3.323	3.341	3.359	3.377	3.395	3.413	3.432	3.450	3.468
94	3.486	3.505	3.525	3.544	3.564	3.583	3.603	3.622	3.641	3.661	3.680	3.700
95	3.719	3.740	3.761	3.782	3.802	3.823	3.844	3.865	3.886	3.907	3.927	3.948
96	3.969	3.991	4.013	4.035	4.057	4.079	4.101	4.123	4.145	4.167	4.189	4.211
97	4.233	4.256	4.279	4.303	4.326	4.349	4.372	4.395	4.418	4.442	4.465	4.488
98	4.511	4.535	4.559	4.584	4.608	4.632	4.656	4.680	4.704	4.729	4.753	4.777
99	4.801	4.826	4.851	4.877	4.902	4.927	4.952	4.977	5.002	5.028	5.053	5.078
100	5.103											

Mortality Table: 417(e) Applicable Mortality
 Interest Rate: 5.00%, with 2.00% COLA

**Oregon Public Employees Retirement System
IRC 415 for Limitation Year 2020**

**Table 8: Convert from 100% Joint and Survivor Annuity to Single Life Annuity
(Factor Multiplied by Option 2 Annuity)**

Beneficiary Age Difference	Attained Age at Retirement																				
	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	
20	1.224	1.233	1.243	1.253	1.264	1.275	1.287	1.300	1.313	1.327	1.342	1.358	1.374	1.390	1.408	1.427	1.446	1.467	1.488	1.510	
19	1.217	1.226	1.236	1.246	1.256	1.267	1.279	1.291	1.304	1.317	1.331	1.346	1.362	1.378	1.395	1.413	1.432	1.451	1.472	1.493	
18	1.210	1.219	1.228	1.238	1.248	1.258	1.270	1.281	1.294	1.307	1.321	1.335	1.350	1.366	1.382	1.399	1.417	1.436	1.455	1.476	
17	1.204	1.212	1.221	1.230	1.240	1.250	1.261	1.272	1.284	1.296	1.310	1.324	1.338	1.353	1.369	1.385	1.402	1.420	1.439	1.458	
16	1.197	1.205	1.213	1.222	1.231	1.241	1.251	1.262	1.274	1.286	1.299	1.312	1.326	1.340	1.355	1.371	1.387	1.405	1.422	1.441	
15	1.189	1.197	1.205	1.214	1.223	1.232	1.242	1.253	1.264	1.275	1.288	1.300	1.314	1.327	1.342	1.357	1.372	1.389	1.406	1.423	
14	1.182	1.190	1.198	1.206	1.214	1.224	1.233	1.243	1.254	1.265	1.276	1.289	1.301	1.314	1.328	1.342	1.357	1.373	1.389	1.406	
13	1.175	1.182	1.190	1.198	1.206	1.215	1.224	1.233	1.244	1.254	1.265	1.277	1.289	1.301	1.314	1.328	1.342	1.357	1.372	1.388	
12	1.168	1.175	1.182	1.190	1.198	1.206	1.215	1.224	1.233	1.243	1.254	1.265	1.277	1.288	1.301	1.314	1.327	1.341	1.355	1.370	
11	1.161	1.168	1.174	1.182	1.189	1.197	1.205	1.214	1.223	1.233	1.243	1.253	1.264	1.275	1.287	1.299	1.312	1.325	1.339	1.353	
10	1.154	1.160	1.167	1.173	1.181	1.188	1.196	1.204	1.213	1.222	1.232	1.242	1.252	1.263	1.274	1.285	1.297	1.309	1.322	1.335	
9	1.147	1.153	1.159	1.165	1.172	1.179	1.187	1.195	1.203	1.212	1.221	1.230	1.240	1.250	1.260	1.271	1.282	1.294	1.306	1.318	
8	1.140	1.145	1.151	1.157	1.164	1.171	1.178	1.185	1.193	1.201	1.210	1.219	1.228	1.237	1.247	1.257	1.268	1.278	1.289	1.301	
7	1.133	1.138	1.144	1.150	1.156	1.162	1.169	1.176	1.183	1.191	1.199	1.207	1.216	1.225	1.234	1.243	1.253	1.263	1.273	1.284	
6	1.126	1.131	1.136	1.142	1.148	1.154	1.160	1.166	1.173	1.181	1.188	1.196	1.204	1.212	1.221	1.230	1.239	1.248	1.258	1.267	
Beneficiary younger than Retiree	5	1.119	1.124	1.129	1.134	1.140	1.145	1.151	1.157	1.164	1.171	1.178	1.185	1.192	1.200	1.208	1.216	1.225	1.233	1.242	1.251
	4	1.113	1.117	1.122	1.127	1.132	1.137	1.142	1.148	1.154	1.161	1.167	1.174	1.181	1.188	1.196	1.203	1.211	1.219	1.227	1.236
	3	1.106	1.110	1.115	1.119	1.124	1.129	1.134	1.140	1.145	1.151	1.157	1.164	1.170	1.177	1.183	1.190	1.198	1.205	1.213	1.220
	2	1.100	1.104	1.108	1.112	1.117	1.121	1.126	1.131	1.136	1.142	1.147	1.153	1.159	1.165	1.172	1.178	1.185	1.192	1.198	1.205
	1	1.094	1.098	1.101	1.105	1.109	1.114	1.118	1.123	1.128	1.133	1.138	1.143	1.149	1.154	1.160	1.166	1.172	1.179	1.185	1.191
Beneficiary same age as Retiree	0	1.088	1.091	1.095	1.098	1.102	1.106	1.110	1.115	1.119	1.124	1.129	1.134	1.139	1.144	1.149	1.155	1.160	1.166	1.172	1.177
Beneficiary older than Retiree	-1	1.082	1.085	1.089	1.092	1.095	1.099	1.103	1.107	1.111	1.115	1.120	1.125	1.129	1.134	1.139	1.144	1.149	1.154	1.159	1.164
	-2	1.077	1.080	1.083	1.086	1.089	1.092	1.096	1.100	1.103	1.107	1.111	1.116	1.120	1.124	1.129	1.133	1.138	1.142	1.147	1.151
	-3	1.071	1.074	1.077	1.080	1.083	1.086	1.089	1.092	1.096	1.100	1.103	1.107	1.111	1.115	1.119	1.123	1.127	1.131	1.135	1.139
	-4	1.066	1.069	1.071	1.074	1.077	1.080	1.083	1.086	1.089	1.092	1.096	1.099	1.103	1.106	1.110	1.114	1.117	1.121	1.124	1.128
	-5	1.062	1.064	1.066	1.069	1.071	1.074	1.076	1.079	1.082	1.085	1.088	1.092	1.095	1.098	1.101	1.105	1.108	1.111	1.114	1.117
	-6	1.057	1.059	1.061	1.063	1.066	1.068	1.071	1.073	1.076	1.079	1.081	1.084	1.087	1.090	1.093	1.096	1.099	1.102	1.104	1.107
	-7	1.053	1.055	1.057	1.059	1.061	1.063	1.065	1.067	1.070	1.072	1.075	1.078	1.080	1.083	1.085	1.088	1.090	1.093	1.095	1.097
	-8	1.049	1.050	1.052	1.054	1.056	1.058	1.060	1.062	1.064	1.066	1.069	1.071	1.073	1.076	1.078	1.080	1.082	1.085	1.087	1.088
	-9	1.045	1.046	1.048	1.050	1.051	1.053	1.055	1.057	1.059	1.061	1.063	1.065	1.067	1.069	1.071	1.073	1.075	1.077	1.078	1.080
	-10	1.041	1.043	1.044	1.045	1.047	1.049	1.050	1.052	1.054	1.056	1.058	1.059	1.061	1.063	1.065	1.066	1.068	1.070	1.071	1.072
	-11	1.038	1.039	1.040	1.042	1.043	1.045	1.046	1.048	1.049	1.051	1.053	1.054	1.056	1.057	1.059	1.060	1.062	1.063	1.064	1.065
	-12	1.035	1.036	1.037	1.038	1.039	1.041	1.042	1.043	1.045	1.046	1.048	1.049	1.051	1.052	1.053	1.055	1.056	1.057	1.058	1.058
	-13	1.032	1.033	1.034	1.035	1.036	1.037	1.038	1.039	1.041	1.042	1.043	1.045	1.046	1.047	1.048	1.049	1.050	1.051	1.052	1.052
	-14	1.029	1.030	1.031	1.032	1.033	1.034	1.035	1.036	1.037	1.038	1.039	1.040	1.041	1.042	1.043	1.044	1.045	1.046	1.046	1.046
	-15	1.026	1.027	1.028	1.029	1.030	1.031	1.032	1.033	1.034	1.035	1.036	1.037	1.037	1.038	1.039	1.040	1.040	1.041	1.041	1.041
	-16	1.024	1.025	1.025	1.026	1.027	1.028	1.029	1.029	1.030	1.031	1.032	1.033	1.034	1.034	1.035	1.035	1.036	1.036	1.037	1.037
	-17	1.022	1.022	1.023	1.024	1.024	1.025	1.026	1.027	1.027	1.028	1.029	1.030	1.030	1.031	1.031	1.032	1.032	1.032	1.032	1.032
	-18	1.020	1.020	1.021	1.021	1.022	1.023	1.023	1.024	1.025	1.025	1.026	1.026	1.027	1.027	1.028	1.028	1.028	1.029	1.029	1.029
	-19	1.018	1.018	1.019	1.019	1.020	1.020	1.021	1.021	1.022	1.023	1.023	1.024	1.024	1.025	1.025	1.025	1.025	1.025	1.025	1.025
	-20	1.016	1.016	1.017	1.017	1.018	1.018	1.019	1.019	1.020	1.020	1.021	1.021	1.021	1.022	1.022	1.022	1.022	1.022	1.022	1.022

**Oregon Public Employees Retirement System
IRC 415 for Limitation Year 2020**

**Table 8: Convert from 100% Joint and Survivor Annuity to Single Life Annuity
(Factor Multiplied by Option 2 Annuity)**

Beneficiary Age Difference	Attained Age at Retirement																				
	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	
20	1.533	1.557	1.583	1.610	1.639	1.670	1.702	1.737	1.774	1.814	1.856	1.901	1.950	2.002	2.057	2.116	2.179	2.246	2.318	2.395	
19	1.515	1.538	1.563	1.589	1.617	1.646	1.677	1.710	1.745	1.783	1.823	1.867	1.913	1.962	2.015	2.071	2.130	2.194	2.263	2.335	
18	1.497	1.519	1.543	1.568	1.594	1.622	1.651	1.683	1.716	1.752	1.791	1.832	1.875	1.922	1.972	2.025	2.082	2.142	2.207	2.275	
17	1.479	1.500	1.522	1.546	1.571	1.597	1.625	1.655	1.687	1.721	1.758	1.797	1.838	1.882	1.929	1.980	2.033	2.090	2.151	2.215	
16	1.460	1.480	1.502	1.524	1.548	1.573	1.599	1.628	1.658	1.690	1.725	1.762	1.801	1.842	1.887	1.934	1.985	2.038	2.095	2.155	
15	1.442	1.461	1.481	1.502	1.525	1.548	1.574	1.600	1.629	1.659	1.692	1.727	1.763	1.803	1.845	1.889	1.936	1.986	2.039	2.095	
14	1.423	1.441	1.460	1.480	1.501	1.524	1.548	1.573	1.600	1.629	1.659	1.692	1.726	1.763	1.803	1.844	1.888	1.934	1.983	2.035	
13	1.404	1.422	1.439	1.458	1.478	1.499	1.522	1.546	1.571	1.598	1.626	1.657	1.690	1.724	1.761	1.799	1.840	1.883	1.928	1.976	
12	1.386	1.402	1.419	1.436	1.455	1.475	1.496	1.518	1.542	1.567	1.594	1.623	1.653	1.685	1.719	1.755	1.792	1.832	1.873	1.917	
11	1.367	1.382	1.398	1.415	1.432	1.451	1.471	1.491	1.513	1.537	1.562	1.589	1.617	1.646	1.678	1.711	1.745	1.781	1.819	1.859	
10	1.349	1.363	1.378	1.393	1.410	1.427	1.445	1.465	1.485	1.507	1.530	1.555	1.581	1.608	1.637	1.667	1.699	1.732	1.766	1.802	
9	1.331	1.344	1.358	1.372	1.387	1.403	1.420	1.438	1.457	1.478	1.499	1.522	1.546	1.571	1.597	1.624	1.653	1.683	1.714	1.746	
8	1.313	1.325	1.338	1.351	1.365	1.380	1.396	1.412	1.430	1.449	1.468	1.489	1.511	1.534	1.558	1.582	1.608	1.635	1.663	1.691	
7	1.295	1.306	1.318	1.331	1.344	1.357	1.372	1.387	1.403	1.420	1.438	1.457	1.477	1.497	1.519	1.541	1.564	1.588	1.613	1.638	
6	1.278	1.288	1.299	1.310	1.322	1.335	1.348	1.362	1.377	1.392	1.409	1.426	1.443	1.462	1.481	1.501	1.522	1.543	1.565	1.587	
Beneficiary younger than Retiree	5	1.261	1.270	1.280	1.291	1.302	1.313	1.325	1.338	1.351	1.365	1.380	1.395	1.411	1.427	1.445	1.462	1.480	1.499	1.518	1.538
	4	1.244	1.253	1.262	1.272	1.281	1.292	1.303	1.314	1.326	1.339	1.352	1.365	1.379	1.394	1.409	1.425	1.441	1.457	1.474	1.491
	3	1.228	1.236	1.244	1.253	1.262	1.271	1.281	1.291	1.302	1.313	1.325	1.337	1.349	1.362	1.375	1.389	1.403	1.417	1.431	1.446
	2	1.212	1.220	1.227	1.235	1.243	1.251	1.260	1.269	1.279	1.288	1.299	1.309	1.320	1.331	1.343	1.354	1.366	1.379	1.391	1.404
	1	1.197	1.204	1.211	1.218	1.225	1.232	1.240	1.248	1.256	1.265	1.274	1.283	1.292	1.302	1.312	1.322	1.332	1.343	1.353	1.364
Beneficiary same age as Retiree	0	1.183	1.189	1.195	1.201	1.207	1.214	1.221	1.227	1.235	1.242	1.250	1.258	1.266	1.274	1.282	1.291	1.300	1.309	1.318	1.327
Beneficiary older than Retiree	-1	1.169	1.174	1.180	1.185	1.191	1.196	1.202	1.208	1.214	1.221	1.227	1.234	1.241	1.248	1.255	1.262	1.269	1.277	1.285	1.292
	-2	1.156	1.161	1.165	1.170	1.175	1.179	1.184	1.190	1.195	1.200	1.206	1.211	1.217	1.223	1.229	1.235	1.241	1.248	1.254	1.261
	-3	1.143	1.147	1.151	1.155	1.159	1.164	1.168	1.172	1.176	1.181	1.186	1.190	1.195	1.200	1.205	1.210	1.215	1.220	1.226	1.232
	-4	1.131	1.135	1.138	1.142	1.145	1.148	1.152	1.156	1.159	1.163	1.167	1.171	1.175	1.179	1.183	1.187	1.191	1.196	1.200	1.205
	-5	1.120	1.123	1.126	1.129	1.132	1.134	1.137	1.140	1.143	1.146	1.149	1.153	1.156	1.159	1.162	1.166	1.169	1.173	1.177	1.182
	-6	1.109	1.112	1.114	1.117	1.119	1.121	1.124	1.126	1.128	1.131	1.133	1.136	1.138	1.141	1.144	1.147	1.150	1.153	1.156	1.161
	-7	1.099	1.101	1.103	1.105	1.107	1.109	1.111	1.113	1.115	1.117	1.118	1.120	1.123	1.125	1.127	1.129	1.132	1.135	1.138	1.142
	-8	1.090	1.092	1.093	1.095	1.096	1.098	1.099	1.100	1.102	1.103	1.105	1.107	1.108	1.110	1.112	1.114	1.116	1.119	1.122	1.125
	-9	1.081	1.083	1.084	1.085	1.086	1.087	1.088	1.089	1.090	1.091	1.093	1.094	1.095	1.097	1.098	1.100	1.102	1.104	1.107	1.111
	-10	1.073	1.074	1.075	1.076	1.077	1.078	1.078	1.079	1.080	1.081	1.082	1.082	1.084	1.085	1.086	1.088	1.090	1.092	1.095	1.098
	-11	1.066	1.067	1.067	1.068	1.068	1.069	1.069	1.070	1.070	1.071	1.072	1.072	1.073	1.074	1.075	1.077	1.079	1.081	1.084	1.087
	-12	1.059	1.059	1.060	1.060	1.060	1.061	1.061	1.061	1.062	1.062	1.063	1.063	1.064	1.065	1.066	1.068	1.069	1.071	1.074	1.076
	-13	1.053	1.053	1.053	1.053	1.053	1.054	1.054	1.054	1.054	1.054	1.055	1.055	1.056	1.057	1.058	1.059	1.061	1.063	1.065	1.068
	-14	1.047	1.047	1.047	1.047	1.047	1.047	1.047	1.047	1.047	1.047	1.048	1.048	1.049	1.050	1.051	1.052	1.054	1.055	1.057	1.060
	-15	1.041	1.042	1.041	1.041	1.041	1.041	1.041	1.041	1.041	1.041	1.042	1.042	1.043	1.044	1.045	1.046	1.047	1.049	1.051	1.053
	-16	1.037	1.037	1.037	1.036	1.036	1.036	1.036	1.036	1.036	1.036	1.036	1.037	1.038	1.038	1.039	1.040	1.042	1.043	1.045	1.047
	-17	1.032	1.032	1.032	1.032	1.032	1.031	1.031	1.031	1.031	1.032	1.032	1.033	1.034	1.035	1.036	1.037	1.038	1.040	1.042	1.044
	-18	1.028	1.028	1.028	1.028	1.028	1.027	1.027	1.027	1.027	1.028	1.028	1.028	1.029	1.030	1.031	1.032	1.034	1.036	1.038	1.040
	-19	1.025	1.025	1.025	1.024	1.024	1.024	1.024	1.024	1.024	1.024	1.024	1.025	1.025	1.026	1.027	1.028	1.029	1.030	1.032	1.034
	-20	1.022	1.022	1.021	1.021	1.021	1.021	1.021	1.021	1.021	1.021	1.021	1.022	1.022	1.023	1.024	1.024	1.026	1.027	1.029	1.031

**Oregon Public Employees Retirement System
IRC 415 for Limitation Year 2020**

**Table 9: Convert from 50% Joint and Survivor Annuity to Single Life Annuity
(Factor Multiplied by Option 3 Annuity)**

Beneficiary Age Difference	Attained Age at Retirement																				
	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	
20	1.112	1.117	1.122	1.127	1.132	1.138	1.144	1.150	1.157	1.164	1.171	1.179	1.187	1.195	1.204	1.213	1.223	1.233	1.244	1.255	
19	1.109	1.113	1.118	1.123	1.128	1.133	1.139	1.145	1.152	1.159	1.166	1.173	1.181	1.189	1.198	1.207	1.216	1.226	1.236	1.246	
18	1.105	1.110	1.114	1.119	1.124	1.129	1.135	1.141	1.147	1.153	1.160	1.167	1.175	1.183	1.191	1.200	1.209	1.218	1.228	1.238	
17	1.102	1.106	1.110	1.115	1.120	1.125	1.130	1.136	1.142	1.148	1.155	1.162	1.169	1.176	1.184	1.193	1.201	1.210	1.219	1.229	
16	1.098	1.102	1.107	1.111	1.116	1.121	1.126	1.131	1.137	1.143	1.149	1.156	1.163	1.170	1.178	1.185	1.194	1.202	1.211	1.220	
15	1.095	1.099	1.103	1.107	1.111	1.116	1.121	1.126	1.132	1.138	1.144	1.150	1.157	1.164	1.171	1.178	1.186	1.194	1.203	1.212	
14	1.091	1.095	1.099	1.103	1.107	1.112	1.117	1.122	1.127	1.132	1.138	1.144	1.151	1.157	1.164	1.171	1.179	1.186	1.194	1.203	
13	1.088	1.091	1.095	1.099	1.103	1.107	1.112	1.117	1.122	1.127	1.133	1.138	1.144	1.151	1.157	1.164	1.171	1.178	1.186	1.194	
12	1.084	1.087	1.091	1.095	1.099	1.103	1.107	1.112	1.117	1.122	1.127	1.133	1.138	1.144	1.150	1.157	1.164	1.171	1.178	1.185	
11	1.081	1.084	1.087	1.091	1.095	1.103	1.103	1.107	1.112	1.116	1.121	1.127	1.132	1.138	1.144	1.150	1.156	1.163	1.169	1.176	
10	1.077	1.080	1.083	1.087	1.090	1.094	1.098	1.102	1.107	1.111	1.116	1.121	1.126	1.131	1.137	1.143	1.149	1.155	1.161	1.168	
9	1.073	1.076	1.079	1.083	1.086	1.090	1.093	1.097	1.101	1.106	1.110	1.115	1.120	1.125	1.130	1.136	1.141	1.147	1.153	1.159	
8	1.070	1.073	1.076	1.079	1.082	1.085	1.089	1.093	1.096	1.101	1.105	1.109	1.114	1.119	1.123	1.129	1.134	1.139	1.145	1.150	
7	1.066	1.069	1.072	1.075	1.078	1.081	1.084	1.088	1.092	1.095	1.099	1.104	1.108	1.112	1.117	1.122	1.126	1.132	1.137	1.142	
6	1.063	1.066	1.068	1.071	1.074	1.077	1.080	1.083	1.087	1.090	1.094	1.098	1.102	1.106	1.110	1.115	1.119	1.124	1.129	1.134	
Beneficiary younger than Retiree	5	1.060	1.062	1.064	1.067	1.070	1.073	1.076	1.079	1.082	1.085	1.089	1.092	1.096	1.100	1.104	1.108	1.112	1.117	1.121	1.126
	4	1.056	1.059	1.061	1.063	1.066	1.068	1.071	1.074	1.077	1.080	1.084	1.087	1.091	1.094	1.098	1.102	1.106	1.110	1.114	1.118
	3	1.053	1.055	1.057	1.060	1.062	1.064	1.067	1.070	1.073	1.076	1.079	1.082	1.085	1.088	1.092	1.095	1.099	1.103	1.106	1.110
	2	1.050	1.052	1.054	1.056	1.058	1.061	1.063	1.065	1.068	1.071	1.074	1.077	1.080	1.083	1.086	1.089	1.092	1.096	1.099	1.103
	1	1.047	1.049	1.051	1.053	1.055	1.057	1.059	1.061	1.064	1.066	1.069	1.072	1.074	1.077	1.080	1.083	1.086	1.089	1.092	1.096
Beneficiary same age as Retiree	0	1.044	1.046	1.047	1.049	1.051	1.053	1.055	1.057	1.060	1.062	1.064	1.067	1.069	1.072	1.075	1.077	1.080	1.083	1.086	1.089
Beneficiary older than Retiree	-1	1.041	1.043	1.044	1.046	1.048	1.050	1.051	1.053	1.056	1.058	1.060	1.062	1.065	1.067	1.069	1.072	1.074	1.077	1.079	1.082
	-2	1.038	1.040	1.041	1.043	1.044	1.046	1.048	1.050	1.052	1.054	1.056	1.058	1.060	1.062	1.064	1.067	1.069	1.071	1.073	1.076
	-3	1.036	1.037	1.038	1.040	1.041	1.043	1.045	1.046	1.048	1.050	1.052	1.054	1.056	1.058	1.060	1.062	1.064	1.066	1.068	1.070
	-4	1.033	1.034	1.036	1.037	1.038	1.040	1.041	1.043	1.044	1.046	1.048	1.050	1.051	1.053	1.055	1.057	1.059	1.060	1.062	1.064
	-5	1.031	1.032	1.033	1.034	1.036	1.037	1.038	1.040	1.041	1.043	1.044	1.046	1.047	1.049	1.051	1.052	1.054	1.056	1.057	1.059
	-6	1.029	1.030	1.031	1.032	1.033	1.034	1.035	1.037	1.038	1.039	1.041	1.042	1.044	1.045	1.047	1.048	1.049	1.051	1.052	1.053
	-7	1.026	1.027	1.028	1.029	1.030	1.031	1.033	1.034	1.035	1.036	1.037	1.039	1.040	1.041	1.043	1.044	1.045	1.046	1.048	1.049
	-8	1.024	1.025	1.026	1.027	1.028	1.029	1.030	1.031	1.032	1.033	1.034	1.036	1.037	1.038	1.039	1.040	1.041	1.042	1.043	1.044
	-9	1.022	1.023	1.024	1.025	1.026	1.027	1.027	1.028	1.029	1.030	1.031	1.033	1.034	1.035	1.036	1.037	1.038	1.038	1.039	1.040
	-10	1.021	1.021	1.022	1.023	1.024	1.024	1.025	1.026	1.027	1.028	1.029	1.030	1.031	1.032	1.032	1.033	1.034	1.035	1.035	1.036
	-11	1.019	1.020	1.020	1.021	1.022	1.022	1.023	1.024	1.025	1.025	1.026	1.027	1.028	1.029	1.029	1.030	1.031	1.031	1.032	1.032
	-12	1.017	1.018	1.018	1.019	1.020	1.020	1.021	1.022	1.022	1.023	1.024	1.025	1.025	1.026	1.027	1.027	1.028	1.028	1.029	1.029
	-13	1.016	1.016	1.017	1.017	1.018	1.019	1.019	1.020	1.020	1.021	1.022	1.022	1.023	1.024	1.024	1.025	1.025	1.025	1.026	1.026
	-14	1.014	1.015	1.015	1.016	1.016	1.017	1.017	1.018	1.019	1.019	1.020	1.020	1.021	1.021	1.022	1.022	1.022	1.023	1.023	1.023
	-15	1.013	1.014	1.014	1.014	1.015	1.015	1.016	1.016	1.017	1.017	1.018	1.018	1.019	1.019	1.019	1.020	1.020	1.020	1.021	1.021
	-16	1.012	1.012	1.013	1.013	1.013	1.014	1.014	1.015	1.015	1.016	1.016	1.016	1.017	1.017	1.017	1.018	1.018	1.018	1.018	1.018
	-17	1.011	1.011	1.011	1.012	1.012	1.013	1.013	1.013	1.014	1.014	1.014	1.015	1.015	1.015	1.016	1.016	1.016	1.016	1.016	1.016
	-18	1.010	1.010	1.010	1.011	1.011	1.011	1.012	1.012	1.012	1.013	1.013	1.013	1.013	1.014	1.014	1.014	1.014	1.014	1.014	1.014
	-19	1.009	1.009	1.009	1.010	1.010	1.010	1.010	1.011	1.011	1.012	1.012	1.012	1.012	1.012	1.012	1.013	1.013	1.013	1.013	1.013
	-20	1.008	1.008	1.008	1.009	1.009	1.009	1.009	1.010	1.010	1.010	1.010	1.011	1.011	1.011	1.011	1.011	1.011	1.011	1.011	1.011

**Oregon Public Employees Retirement System
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**Table 9: Convert from 50% Joint and Survivor Annuity to Single Life Annuity
(Factor Multiplied by Option 3 Annuity)**

Beneficiary Age Difference	Attained Age at Retirement																				
	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	
20	1.267	1.279	1.292	1.305	1.320	1.335	1.351	1.369	1.387	1.407	1.428	1.451	1.475	1.501	1.528	1.558	1.589	1.623	1.659	1.698	
19	1.258	1.269	1.282	1.295	1.308	1.323	1.338	1.355	1.373	1.392	1.412	1.433	1.456	1.481	1.507	1.535	1.565	1.597	1.631	1.668	
18	1.248	1.260	1.271	1.284	1.297	1.311	1.326	1.341	1.358	1.376	1.395	1.416	1.438	1.461	1.486	1.513	1.541	1.571	1.603	1.637	
17	1.239	1.250	1.261	1.273	1.285	1.299	1.313	1.328	1.344	1.361	1.379	1.398	1.419	1.441	1.465	1.490	1.517	1.545	1.575	1.607	
16	1.230	1.240	1.251	1.262	1.274	1.286	1.300	1.314	1.329	1.345	1.362	1.381	1.400	1.421	1.444	1.467	1.492	1.519	1.547	1.577	
15	1.221	1.230	1.240	1.251	1.262	1.274	1.287	1.300	1.315	1.330	1.346	1.363	1.382	1.401	1.422	1.445	1.468	1.493	1.519	1.547	
14	1.212	1.221	1.230	1.240	1.251	1.262	1.274	1.286	1.300	1.314	1.330	1.346	1.363	1.382	1.401	1.422	1.444	1.467	1.492	1.517	
13	1.202	1.211	1.220	1.229	1.239	1.250	1.261	1.273	1.285	1.299	1.313	1.328	1.345	1.362	1.380	1.400	1.420	1.441	1.464	1.488	
12	1.193	1.201	1.209	1.218	1.228	1.238	1.248	1.259	1.271	1.284	1.297	1.311	1.326	1.343	1.360	1.377	1.396	1.416	1.437	1.458	
11	1.184	1.191	1.199	1.207	1.216	1.225	1.235	1.246	1.257	1.269	1.281	1.294	1.308	1.323	1.339	1.355	1.373	1.391	1.410	1.429	
10	1.174	1.182	1.189	1.197	1.205	1.213	1.223	1.232	1.243	1.254	1.265	1.277	1.290	1.304	1.319	1.334	1.349	1.366	1.383	1.401	
9	1.165	1.172	1.179	1.186	1.194	1.202	1.210	1.219	1.229	1.239	1.250	1.261	1.273	1.285	1.298	1.312	1.326	1.341	1.357	1.373	
8	1.156	1.162	1.169	1.176	1.183	1.190	1.198	1.206	1.215	1.224	1.234	1.245	1.255	1.267	1.279	1.291	1.304	1.317	1.331	1.346	
7	1.147	1.153	1.159	1.165	1.172	1.179	1.186	1.194	1.202	1.210	1.219	1.228	1.238	1.249	1.259	1.271	1.282	1.294	1.306	1.319	
6	1.139	1.144	1.149	1.155	1.161	1.167	1.174	1.181	1.188	1.196	1.204	1.213	1.222	1.231	1.241	1.251	1.261	1.271	1.282	1.294	
Beneficiary younger than Retiree	5	1.130	1.135	1.140	1.145	1.151	1.157	1.163	1.169	1.176	1.183	1.190	1.198	1.205	1.214	1.222	1.231	1.240	1.250	1.259	1.269
	4	1.122	1.126	1.131	1.136	1.141	1.146	1.151	1.157	1.163	1.169	1.176	1.183	1.190	1.197	1.205	1.212	1.220	1.228	1.237	1.245
	3	1.114	1.118	1.122	1.126	1.131	1.136	1.141	1.146	1.151	1.157	1.162	1.168	1.175	1.181	1.188	1.194	1.201	1.208	1.216	1.223
	2	1.106	1.110	1.114	1.117	1.122	1.126	1.130	1.135	1.139	1.144	1.149	1.155	1.160	1.166	1.171	1.177	1.183	1.189	1.196	1.202
	1	1.099	1.102	1.105	1.109	1.112	1.116	1.120	1.124	1.128	1.132	1.137	1.141	1.146	1.151	1.156	1.161	1.166	1.171	1.177	1.182
Beneficiary same age as Retiree	0	1.092	1.094	1.097	1.100	1.104	1.107	1.110	1.114	1.117	1.121	1.125	1.129	1.133	1.137	1.141	1.146	1.150	1.154	1.159	1.163
Beneficiary older than Retiree	-1	1.085	1.087	1.090	1.093	1.095	1.098	1.101	1.104	1.107	1.110	1.114	1.117	1.120	1.124	1.127	1.131	1.135	1.138	1.142	1.146
	-2	1.078	1.080	1.083	1.085	1.087	1.090	1.092	1.095	1.097	1.100	1.103	1.106	1.109	1.112	1.115	1.118	1.121	1.124	1.127	1.130
	-3	1.072	1.074	1.076	1.078	1.080	1.082	1.084	1.086	1.088	1.090	1.093	1.095	1.098	1.100	1.103	1.105	1.108	1.110	1.113	1.116
	-4	1.066	1.067	1.069	1.071	1.073	1.074	1.076	1.078	1.080	1.082	1.083	1.085	1.087	1.089	1.091	1.094	1.096	1.098	1.100	1.103
	-5	1.060	1.062	1.063	1.064	1.066	1.067	1.069	1.070	1.072	1.073	1.075	1.076	1.078	1.080	1.081	1.083	1.085	1.087	1.089	1.091
	-6	1.055	1.056	1.057	1.058	1.059	1.061	1.062	1.063	1.064	1.065	1.067	1.068	1.069	1.071	1.072	1.073	1.075	1.076	1.078	1.080
	-7	1.050	1.051	1.052	1.053	1.054	1.054	1.055	1.056	1.057	1.058	1.059	1.060	1.061	1.062	1.063	1.065	1.066	1.067	1.069	1.071
	-8	1.045	1.046	1.047	1.047	1.048	1.049	1.050	1.050	1.051	1.052	1.052	1.053	1.054	1.055	1.056	1.057	1.058	1.059	1.061	1.063
	-9	1.041	1.041	1.042	1.042	1.043	1.044	1.044	1.045	1.045	1.046	1.046	1.047	1.048	1.048	1.049	1.050	1.051	1.052	1.054	1.055
	-10	1.037	1.037	1.038	1.038	1.038	1.039	1.039	1.040	1.040	1.040	1.041	1.041	1.042	1.042	1.043	1.044	1.045	1.046	1.047	1.049
	-11	1.033	1.033	1.034	1.034	1.034	1.034	1.035	1.035	1.035	1.035	1.036	1.036	1.037	1.037	1.038	1.039	1.039	1.041	1.042	1.043
	-12	1.029	1.030	1.030	1.030	1.030	1.031	1.031	1.031	1.031	1.031	1.031	1.032	1.032	1.032	1.033	1.034	1.035	1.036	1.037	1.038
	-13	1.026	1.026	1.027	1.027	1.027	1.027	1.027	1.027	1.027	1.027	1.027	1.028	1.028	1.028	1.029	1.030	1.031	1.031	1.033	1.034
	-14	1.023	1.023	1.023	1.024	1.024	1.024	1.024	1.024	1.024	1.024	1.024	1.024	1.024	1.025	1.025	1.026	1.027	1.028	1.029	1.030
	-15	1.021	1.021	1.021	1.021	1.021	1.021	1.021	1.021	1.021	1.021	1.021	1.021	1.021	1.022	1.022	1.023	1.024	1.024	1.025	1.026
	-16	1.018	1.018	1.018	1.018	1.018	1.018	1.018	1.018	1.018	1.018	1.018	1.018	1.019	1.019	1.020	1.020	1.021	1.022	1.022	1.024
	-17	1.016	1.016	1.016	1.016	1.016	1.016	1.016	1.016	1.016	1.016	1.016	1.016	1.016	1.017	1.017	1.018	1.018	1.019	1.020	1.021
	-18	1.014	1.014	1.014	1.014	1.014	1.014	1.014	1.014	1.014	1.014	1.014	1.014	1.014	1.015	1.015	1.016	1.016	1.017	1.018	1.019
	-19	1.012	1.012	1.012	1.012	1.012	1.012	1.012	1.012	1.012	1.012	1.012	1.012	1.013	1.013	1.013	1.014	1.014	1.015	1.016	1.017
	-20	1.011	1.011	1.011	1.011	1.010	1.010	1.010	1.010	1.010	1.010	1.011	1.011	1.011	1.011	1.012	1.012	1.013	1.013	1.014	1.015

**Oregon Public Employees Retirement System
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**Table 10: Convert from 100% Joint and Survivor Annuity with Pop-up Feature to Single Life Annuity
(Factor Multiplied by Option 2a Annuity)**

Beneficiary Age Difference	Attained Age at Retirement																				
	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	
20	1.227	1.236	1.246	1.257	1.268	1.279	1.292	1.305	1.318	1.333	1.348	1.364	1.380	1.398	1.416	1.435	1.456	1.477	1.499	1.522	
19	1.220	1.229	1.239	1.249	1.260	1.271	1.283	1.296	1.309	1.323	1.338	1.353	1.369	1.386	1.404	1.422	1.442	1.462	1.484	1.506	
18	1.214	1.223	1.232	1.242	1.252	1.263	1.275	1.287	1.300	1.313	1.327	1.342	1.358	1.374	1.391	1.409	1.428	1.448	1.468	1.490	
17	1.207	1.216	1.225	1.234	1.244	1.255	1.266	1.278	1.290	1.303	1.317	1.331	1.346	1.362	1.379	1.396	1.414	1.433	1.453	1.474	
16	1.200	1.209	1.217	1.227	1.236	1.246	1.257	1.269	1.281	1.293	1.307	1.320	1.335	1.350	1.366	1.383	1.400	1.419	1.438	1.458	
15	1.193	1.201	1.210	1.219	1.228	1.238	1.248	1.259	1.271	1.283	1.296	1.310	1.323	1.338	1.353	1.370	1.386	1.404	1.422	1.441	
14	1.187	1.194	1.203	1.211	1.220	1.230	1.240	1.250	1.261	1.273	1.286	1.298	1.312	1.326	1.341	1.356	1.372	1.389	1.407	1.425	
13	1.180	1.187	1.195	1.203	1.212	1.221	1.231	1.241	1.252	1.263	1.275	1.287	1.300	1.314	1.328	1.343	1.358	1.375	1.391	1.409	
12	1.173	1.180	1.188	1.196	1.204	1.213	1.222	1.232	1.242	1.253	1.264	1.276	1.289	1.302	1.315	1.330	1.344	1.360	1.376	1.393	
11	1.166	1.173	1.180	1.188	1.196	1.204	1.213	1.223	1.233	1.243	1.254	1.265	1.277	1.290	1.303	1.316	1.331	1.345	1.361	1.377	
10	1.159	1.166	1.173	1.180	1.188	1.196	1.205	1.214	1.223	1.233	1.244	1.255	1.266	1.278	1.290	1.303	1.317	1.331	1.346	1.361	
9	1.153	1.159	1.166	1.173	1.180	1.188	1.196	1.205	1.214	1.223	1.233	1.244	1.255	1.266	1.278	1.290	1.303	1.317	1.330	1.345	
8	1.146	1.152	1.158	1.165	1.172	1.180	1.187	1.196	1.204	1.213	1.223	1.233	1.243	1.254	1.266	1.277	1.290	1.302	1.316	1.329	
7	1.139	1.145	1.151	1.158	1.164	1.171	1.179	1.187	1.195	1.204	1.213	1.222	1.232	1.243	1.253	1.265	1.276	1.288	1.301	1.314	
6	1.133	1.138	1.144	1.150	1.157	1.163	1.170	1.178	1.186	1.194	1.203	1.212	1.221	1.231	1.242	1.252	1.263	1.275	1.287	1.299	
Beneficiary younger than Retiree	5	1.126	1.132	1.137	1.143	1.149	1.155	1.162	1.169	1.177	1.185	1.193	1.202	1.211	1.220	1.230	1.240	1.250	1.261	1.272	1.284
	4	1.120	1.125	1.130	1.136	1.142	1.148	1.154	1.161	1.168	1.176	1.184	1.192	1.200	1.209	1.218	1.228	1.238	1.248	1.259	1.269
	3	1.114	1.119	1.124	1.129	1.134	1.140	1.146	1.153	1.160	1.167	1.174	1.182	1.190	1.198	1.207	1.216	1.226	1.235	1.245	1.255
	2	1.108	1.112	1.117	1.122	1.127	1.133	1.139	1.145	1.151	1.158	1.165	1.173	1.180	1.188	1.196	1.205	1.214	1.223	1.232	1.242
	1	1.102	1.106	1.111	1.116	1.121	1.126	1.131	1.137	1.143	1.150	1.156	1.163	1.171	1.178	1.186	1.194	1.202	1.211	1.219	1.228
Beneficiary same age as Retiree	0	1.096	1.101	1.105	1.109	1.114	1.119	1.124	1.130	1.135	1.141	1.148	1.154	1.161	1.168	1.176	1.183	1.191	1.199	1.207	1.215
Beneficiary older than Retiree	-1	1.091	1.095	1.099	1.103	1.107	1.112	1.117	1.122	1.128	1.133	1.140	1.146	1.152	1.159	1.166	1.173	1.180	1.188	1.195	1.203
	-2	1.086	1.089	1.093	1.097	1.101	1.106	1.110	1.115	1.120	1.126	1.132	1.137	1.143	1.150	1.156	1.163	1.170	1.177	1.184	1.191
	-3	1.081	1.084	1.088	1.091	1.095	1.100	1.104	1.109	1.113	1.119	1.124	1.129	1.135	1.141	1.147	1.153	1.160	1.166	1.173	1.180
	-4	1.076	1.079	1.082	1.086	1.090	1.094	1.098	1.102	1.107	1.112	1.117	1.122	1.127	1.133	1.138	1.144	1.150	1.156	1.162	1.169
	-5	1.071	1.074	1.077	1.081	1.084	1.088	1.092	1.096	1.100	1.105	1.110	1.115	1.120	1.125	1.130	1.135	1.141	1.147	1.152	1.158
	-6	1.067	1.070	1.073	1.076	1.079	1.083	1.086	1.090	1.094	1.098	1.103	1.108	1.112	1.117	1.122	1.127	1.132	1.138	1.143	1.148
	-7	1.063	1.065	1.068	1.071	1.074	1.077	1.081	1.084	1.088	1.092	1.097	1.101	1.105	1.110	1.114	1.119	1.124	1.129	1.134	1.139
	-8	1.059	1.061	1.064	1.066	1.069	1.072	1.076	1.079	1.083	1.086	1.090	1.095	1.099	1.103	1.107	1.112	1.116	1.121	1.125	1.130
	-9	1.055	1.057	1.060	1.062	1.065	1.068	1.071	1.074	1.077	1.081	1.085	1.089	1.092	1.096	1.100	1.104	1.109	1.113	1.117	1.121
	-10	1.051	1.053	1.056	1.058	1.061	1.063	1.066	1.069	1.072	1.076	1.079	1.083	1.086	1.090	1.094	1.098	1.102	1.105	1.109	1.113
	-11	1.048	1.050	1.052	1.054	1.057	1.059	1.062	1.065	1.068	1.071	1.074	1.077	1.081	1.084	1.088	1.091	1.095	1.098	1.102	1.105
	-12	1.045	1.046	1.049	1.051	1.053	1.055	1.058	1.060	1.063	1.066	1.069	1.072	1.075	1.079	1.082	1.085	1.088	1.092	1.095	1.098
	-13	1.042	1.043	1.045	1.047	1.049	1.052	1.054	1.056	1.059	1.062	1.065	1.068	1.070	1.073	1.076	1.079	1.082	1.086	1.088	1.091
	-14	1.039	1.040	1.042	1.044	1.046	1.048	1.050	1.053	1.055	1.058	1.060	1.063	1.066	1.068	1.071	1.074	1.077	1.080	1.082	1.085
	-15	1.036	1.038	1.039	1.041	1.043	1.045	1.047	1.049	1.051	1.054	1.056	1.059	1.061	1.064	1.066	1.069	1.072	1.074	1.077	1.079
	-16	1.033	1.035	1.036	1.038	1.040	1.042	1.044	1.046	1.048	1.050	1.052	1.055	1.057	1.059	1.062	1.064	1.067	1.069	1.071	1.073
	-17	1.031	1.032	1.034	1.035	1.037	1.039	1.040	1.042	1.044	1.046	1.049	1.051	1.053	1.055	1.057	1.060	1.062	1.064	1.066	1.068
	-18	1.029	1.030	1.031	1.033	1.034	1.036	1.038	1.039	1.041	1.043	1.045	1.047	1.049	1.051	1.053	1.055	1.058	1.060	1.061	1.063
	-19	1.027	1.028	1.029	1.030	1.032	1.033	1.035	1.036	1.038	1.040	1.042	1.044	1.046	1.048	1.050	1.052	1.053	1.055	1.057	1.059
	-20	1.025	1.026	1.027	1.028	1.030	1.031	1.032	1.034	1.035	1.037	1.039	1.041	1.042	1.044	1.046	1.048	1.050	1.051	1.053	1.054

**Oregon Public Employees Retirement System
IRC 415 for Limitation Year 2020**

**Table 10: Convert from 100% Joint and Survivor Annuity with Pop-up Feature to Single Life Annuity
(Factor Multiplied by Option 2a Annuity)**

Beneficiary Age Difference	Attained Age at Retirement																				
	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	
20	1.546	1.572	1.599	1.628	1.658	1.690	1.725	1.762	1.802	1.844	1.889	1.938	1.990	2.046	2.106	2.169	2.237	2.310	2.388	2.471	
19	1.529	1.554	1.580	1.608	1.637	1.668	1.702	1.737	1.775	1.816	1.860	1.906	1.956	2.010	2.067	2.128	2.193	2.262	2.337	2.416	
18	1.513	1.536	1.561	1.588	1.616	1.646	1.678	1.712	1.749	1.788	1.830	1.874	1.922	1.973	2.028	2.086	2.148	2.214	2.285	2.360	
17	1.496	1.518	1.542	1.568	1.595	1.624	1.654	1.687	1.722	1.760	1.800	1.842	1.888	1.937	1.989	2.045	2.104	2.166	2.233	2.304	
16	1.478	1.500	1.523	1.548	1.574	1.601	1.631	1.662	1.696	1.731	1.770	1.810	1.854	1.901	1.950	2.003	2.059	2.119	2.182	2.249	
15	1.461	1.482	1.504	1.528	1.553	1.579	1.607	1.637	1.669	1.703	1.740	1.779	1.820	1.864	1.911	1.962	2.014	2.071	2.131	2.194	
14	1.444	1.464	1.486	1.508	1.532	1.557	1.584	1.612	1.643	1.675	1.710	1.747	1.786	1.828	1.873	1.920	1.970	2.023	2.080	2.139	
13	1.427	1.446	1.467	1.488	1.510	1.535	1.560	1.587	1.616	1.647	1.680	1.715	1.752	1.792	1.834	1.879	1.926	1.976	2.029	2.085	
12	1.410	1.429	1.448	1.468	1.490	1.512	1.537	1.563	1.590	1.619	1.651	1.684	1.719	1.757	1.796	1.838	1.883	1.930	1.979	2.031	
11	1.393	1.411	1.429	1.448	1.469	1.490	1.513	1.538	1.564	1.592	1.621	1.653	1.686	1.721	1.759	1.798	1.840	1.883	1.930	1.978	
10	1.376	1.393	1.410	1.429	1.448	1.469	1.490	1.514	1.538	1.564	1.592	1.622	1.653	1.686	1.721	1.758	1.797	1.838	1.881	1.926	
9	1.360	1.376	1.392	1.409	1.428	1.447	1.468	1.490	1.513	1.537	1.564	1.591	1.621	1.652	1.685	1.719	1.755	1.793	1.833	1.875	
8	1.343	1.358	1.374	1.390	1.408	1.426	1.445	1.466	1.488	1.511	1.535	1.561	1.589	1.618	1.649	1.681	1.714	1.750	1.787	1.826	
7	1.327	1.341	1.356	1.371	1.388	1.405	1.423	1.443	1.463	1.485	1.508	1.532	1.558	1.585	1.613	1.643	1.674	1.707	1.741	1.777	
6	1.311	1.325	1.339	1.353	1.368	1.385	1.402	1.420	1.439	1.459	1.481	1.503	1.527	1.552	1.579	1.606	1.635	1.666	1.697	1.731	
Beneficiary younger than Retiree	5	1.296	1.308	1.321	1.335	1.349	1.364	1.380	1.397	1.415	1.434	1.454	1.475	1.497	1.521	1.545	1.571	1.597	1.625	1.655	1.685
	4	1.281	1.292	1.305	1.317	1.331	1.345	1.360	1.376	1.392	1.410	1.428	1.448	1.468	1.490	1.513	1.536	1.561	1.587	1.614	1.642
	3	1.266	1.277	1.288	1.300	1.313	1.326	1.340	1.354	1.370	1.386	1.403	1.421	1.440	1.460	1.481	1.503	1.525	1.549	1.574	1.600
	2	1.252	1.262	1.272	1.283	1.295	1.307	1.320	1.334	1.348	1.363	1.379	1.395	1.413	1.431	1.451	1.471	1.492	1.513	1.536	1.560
	1	1.238	1.247	1.257	1.267	1.278	1.289	1.301	1.314	1.327	1.341	1.355	1.371	1.387	1.404	1.422	1.440	1.459	1.479	1.500	1.522
Beneficiary same age as Retiree	0	1.224	1.233	1.242	1.252	1.261	1.272	1.283	1.294	1.307	1.319	1.333	1.347	1.362	1.377	1.394	1.411	1.428	1.446	1.466	1.486
Beneficiary older than Retiree	-1	1.211	1.219	1.228	1.236	1.246	1.255	1.265	1.276	1.287	1.299	1.311	1.324	1.338	1.352	1.367	1.383	1.399	1.415	1.433	1.451
	-2	1.198	1.206	1.214	1.222	1.230	1.239	1.249	1.258	1.269	1.279	1.291	1.303	1.315	1.328	1.342	1.356	1.371	1.386	1.402	1.419
	-3	1.186	1.193	1.201	1.208	1.216	1.224	1.232	1.241	1.251	1.261	1.271	1.282	1.293	1.305	1.318	1.331	1.344	1.358	1.374	1.389
	-4	1.175	1.181	1.188	1.195	1.202	1.209	1.217	1.225	1.234	1.243	1.252	1.262	1.273	1.284	1.295	1.307	1.319	1.333	1.347	1.361
	-5	1.164	1.170	1.176	1.182	1.189	1.195	1.203	1.210	1.218	1.226	1.235	1.244	1.253	1.263	1.274	1.285	1.296	1.309	1.322	1.336
	-6	1.153	1.159	1.164	1.170	1.176	1.182	1.189	1.195	1.203	1.210	1.218	1.226	1.235	1.244	1.254	1.264	1.275	1.286	1.298	1.312
	-7	1.143	1.148	1.153	1.159	1.164	1.170	1.176	1.182	1.188	1.195	1.202	1.210	1.218	1.226	1.235	1.245	1.255	1.265	1.277	1.289
	-8	1.134	1.139	1.143	1.148	1.153	1.158	1.163	1.169	1.175	1.181	1.188	1.194	1.202	1.210	1.218	1.227	1.236	1.246	1.257	1.269
	-9	1.125	1.129	1.133	1.138	1.142	1.147	1.152	1.157	1.162	1.168	1.174	1.180	1.187	1.194	1.202	1.210	1.219	1.228	1.239	1.250
	-10	1.117	1.120	1.124	1.128	1.132	1.136	1.141	1.145	1.150	1.155	1.161	1.167	1.173	1.180	1.187	1.195	1.203	1.212	1.222	1.232
	-11	1.109	1.112	1.116	1.119	1.123	1.126	1.130	1.135	1.139	1.144	1.149	1.154	1.160	1.166	1.173	1.181	1.188	1.197	1.206	1.216
	-12	1.101	1.104	1.107	1.111	1.114	1.117	1.121	1.125	1.129	1.133	1.138	1.143	1.148	1.154	1.161	1.168	1.175	1.183	1.192	1.201
	-13	1.094	1.097	1.100	1.103	1.106	1.109	1.112	1.115	1.119	1.123	1.128	1.132	1.137	1.143	1.149	1.156	1.163	1.170	1.178	1.187
	-14	1.088	1.090	1.093	1.095	1.098	1.101	1.104	1.107	1.110	1.114	1.118	1.123	1.127	1.133	1.138	1.145	1.151	1.158	1.166	1.175
	-15	1.081	1.084	1.086	1.088	1.091	1.093	1.096	1.099	1.102	1.106	1.109	1.114	1.118	1.123	1.129	1.134	1.141	1.147	1.155	1.163
	-16	1.076	1.078	1.080	1.082	1.084	1.086	1.089	1.092	1.095	1.098	1.101	1.105	1.110	1.114	1.120	1.125	1.131	1.138	1.145	1.153
	-17	1.070	1.072	1.074	1.076	1.078	1.080	1.082	1.085	1.088	1.091	1.094	1.098	1.102	1.106	1.111	1.116	1.122	1.128	1.136	1.143
	-18	1.065	1.067	1.068	1.070	1.072	1.074	1.076	1.079	1.081	1.084	1.087	1.091	1.095	1.099	1.104	1.109	1.114	1.120	1.127	1.135
	-19	1.060	1.062	1.063	1.065	1.067	1.069	1.071	1.073	1.075	1.078	1.081	1.084	1.088	1.092	1.097	1.101	1.107	1.113	1.120	1.127
	-20	1.056	1.057	1.059	1.060	1.062	1.064	1.065	1.068	1.070	1.073	1.075	1.079	1.082	1.086	1.090	1.095	1.100	1.106	1.113	1.120

**Oregon Public Employees Retirement System
IRC 415 for Limitation Year 2020**

**Table 11: Convert from 50% Joint and Survivor Annuity with Pop-up Feature to Single Life Annuity
(Factor Multiplied by Option 3a Annuity)**

Beneficiary Age Difference	Attained Age at Retirement																				
	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	
20	1.113	1.118	1.123	1.128	1.134	1.140	1.146	1.152	1.159	1.166	1.174	1.182	1.190	1.199	1.208	1.218	1.228	1.238	1.249	1.261	
19	1.110	1.115	1.120	1.125	1.130	1.136	1.142	1.148	1.154	1.161	1.169	1.177	1.185	1.193	1.202	1.211	1.221	1.231	1.242	1.253	
18	1.107	1.111	1.116	1.121	1.126	1.132	1.137	1.143	1.150	1.157	1.164	1.171	1.179	1.187	1.196	1.205	1.214	1.224	1.234	1.245	
17	1.103	1.108	1.112	1.117	1.122	1.127	1.133	1.139	1.145	1.152	1.158	1.166	1.173	1.181	1.189	1.198	1.207	1.217	1.227	1.237	
16	1.100	1.104	1.109	1.113	1.118	1.123	1.129	1.134	1.140	1.147	1.153	1.160	1.168	1.175	1.183	1.191	1.200	1.209	1.219	1.229	
15	1.097	1.101	1.105	1.109	1.114	1.119	1.124	1.130	1.136	1.142	1.148	1.155	1.162	1.169	1.177	1.185	1.193	1.202	1.211	1.221	
14	1.093	1.097	1.101	1.106	1.110	1.115	1.120	1.125	1.131	1.137	1.143	1.149	1.156	1.163	1.170	1.178	1.186	1.195	1.203	1.213	
13	1.090	1.094	1.098	1.102	1.106	1.111	1.115	1.121	1.126	1.132	1.138	1.144	1.150	1.157	1.164	1.171	1.179	1.187	1.196	1.204	
12	1.086	1.090	1.094	1.098	1.102	1.106	1.111	1.116	1.121	1.127	1.132	1.138	1.144	1.151	1.158	1.165	1.172	1.180	1.188	1.196	
11	1.083	1.087	1.090	1.094	1.098	1.102	1.107	1.111	1.116	1.122	1.127	1.133	1.139	1.145	1.151	1.158	1.165	1.173	1.180	1.188	
10	1.080	1.083	1.086	1.090	1.094	1.098	1.102	1.107	1.112	1.117	1.122	1.127	1.133	1.139	1.145	1.152	1.158	1.165	1.173	1.180	
9	1.076	1.079	1.083	1.086	1.090	1.094	1.098	1.102	1.107	1.112	1.117	1.122	1.127	1.133	1.139	1.145	1.152	1.158	1.165	1.172	
8	1.073	1.076	1.079	1.083	1.086	1.090	1.094	1.098	1.102	1.107	1.112	1.117	1.122	1.127	1.133	1.139	1.145	1.151	1.158	1.165	
7	1.070	1.073	1.076	1.079	1.082	1.086	1.089	1.093	1.097	1.102	1.106	1.111	1.116	1.121	1.127	1.132	1.138	1.144	1.150	1.157	
6	1.066	1.069	1.072	1.075	1.078	1.082	1.085	1.089	1.093	1.097	1.101	1.106	1.111	1.116	1.121	1.126	1.132	1.137	1.143	1.149	
Beneficiary younger than Retiree	5	1.063	1.066	1.069	1.071	1.075	1.078	1.081	1.085	1.088	1.092	1.097	1.101	1.105	1.110	1.115	1.120	1.125	1.131	1.136	1.142
	4	1.060	1.063	1.065	1.068	1.071	1.074	1.077	1.081	1.084	1.088	1.092	1.096	1.100	1.105	1.109	1.114	1.119	1.124	1.129	1.135
	3	1.057	1.059	1.062	1.064	1.067	1.070	1.073	1.076	1.080	1.083	1.087	1.091	1.095	1.099	1.104	1.108	1.113	1.118	1.123	1.128
	2	1.054	1.056	1.059	1.061	1.064	1.066	1.069	1.072	1.076	1.079	1.083	1.086	1.090	1.094	1.098	1.102	1.107	1.111	1.116	1.121
	1	1.051	1.053	1.055	1.058	1.060	1.063	1.066	1.069	1.072	1.075	1.078	1.082	1.085	1.089	1.093	1.097	1.101	1.105	1.110	1.114
Beneficiary same age as Retiree	0	1.048	1.050	1.052	1.055	1.057	1.059	1.062	1.065	1.068	1.071	1.074	1.077	1.081	1.084	1.088	1.092	1.095	1.099	1.104	1.108
Beneficiary older than Retiree	-1	1.046	1.047	1.049	1.052	1.054	1.056	1.059	1.061	1.064	1.067	1.070	1.073	1.076	1.079	1.083	1.086	1.090	1.094	1.098	1.102
	-2	1.043	1.045	1.047	1.049	1.051	1.053	1.055	1.058	1.060	1.063	1.066	1.069	1.072	1.075	1.078	1.081	1.085	1.088	1.092	1.096
	-3	1.040	1.042	1.044	1.046	1.048	1.050	1.052	1.054	1.057	1.059	1.062	1.065	1.068	1.071	1.074	1.077	1.080	1.083	1.086	1.090
	-4	1.038	1.040	1.041	1.043	1.045	1.047	1.049	1.051	1.053	1.056	1.058	1.061	1.064	1.066	1.069	1.072	1.075	1.078	1.081	1.084
	-5	1.036	1.037	1.039	1.040	1.042	1.044	1.046	1.048	1.050	1.052	1.055	1.057	1.060	1.062	1.065	1.068	1.071	1.073	1.076	1.079
	-6	1.033	1.035	1.036	1.038	1.040	1.041	1.043	1.045	1.047	1.049	1.051	1.054	1.056	1.059	1.061	1.064	1.066	1.069	1.071	1.074
	-7	1.031	1.033	1.034	1.035	1.037	1.039	1.040	1.042	1.044	1.046	1.048	1.050	1.053	1.055	1.057	1.060	1.062	1.064	1.067	1.069
	-8	1.029	1.031	1.032	1.033	1.035	1.036	1.038	1.040	1.041	1.043	1.045	1.047	1.049	1.051	1.054	1.056	1.058	1.060	1.063	1.065
	-9	1.027	1.029	1.030	1.031	1.032	1.034	1.035	1.037	1.039	1.040	1.042	1.044	1.046	1.048	1.050	1.052	1.054	1.056	1.058	1.060
	-10	1.026	1.027	1.028	1.029	1.030	1.032	1.033	1.035	1.036	1.038	1.040	1.041	1.043	1.045	1.047	1.049	1.051	1.053	1.055	1.056
	-11	1.024	1.025	1.026	1.027	1.028	1.030	1.031	1.032	1.034	1.035	1.037	1.039	1.040	1.042	1.044	1.046	1.047	1.049	1.051	1.053
	-12	1.022	1.023	1.024	1.025	1.026	1.028	1.029	1.030	1.032	1.033	1.035	1.036	1.038	1.039	1.041	1.043	1.044	1.046	1.047	1.049
	-13	1.021	1.022	1.023	1.024	1.025	1.026	1.027	1.028	1.029	1.031	1.032	1.034	1.035	1.037	1.038	1.040	1.041	1.043	1.044	1.046
	-14	1.019	1.020	1.021	1.022	1.023	1.024	1.025	1.026	1.027	1.029	1.030	1.031	1.033	1.034	1.036	1.037	1.038	1.040	1.041	1.042
	-15	1.018	1.019	1.020	1.020	1.021	1.022	1.023	1.024	1.026	1.027	1.028	1.029	1.031	1.032	1.033	1.034	1.036	1.037	1.038	1.039
	-16	1.017	1.017	1.018	1.019	1.020	1.021	1.022	1.023	1.024	1.025	1.026	1.027	1.028	1.030	1.031	1.032	1.033	1.034	1.036	1.037
	-17	1.016	1.016	1.017	1.018	1.018	1.019	1.020	1.021	1.022	1.023	1.024	1.025	1.027	1.028	1.029	1.030	1.031	1.032	1.033	1.034
	-18	1.014	1.015	1.016	1.016	1.017	1.018	1.019	1.020	1.021	1.022	1.023	1.024	1.025	1.026	1.027	1.028	1.029	1.030	1.031	1.032
	-19	1.013	1.014	1.015	1.015	1.016	1.017	1.017	1.018	1.019	1.020	1.021	1.022	1.023	1.024	1.025	1.026	1.027	1.028	1.029	1.029
	-20	1.012	1.013	1.014	1.014	1.015	1.015	1.016	1.017	1.018	1.019	1.019	1.020	1.021	1.022	1.023	1.024	1.025	1.026	1.026	1.027

**Oregon Public Employees Retirement System
IRC 415 for Limitation Year 2020**

**Table 11: Convert from 50% Joint and Survivor Annuity with Pop-up Feature to Single Life Annuity
(Factor Multiplied by Option 3a Annuity)**

Beneficiary Age Difference	Attained Age at Retirement																				
	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	
20	1.273	1.286	1.299	1.314	1.329	1.345	1.363	1.381	1.401	1.422	1.445	1.469	1.495	1.523	1.553	1.585	1.619	1.655	1.694	1.736	
19	1.265	1.277	1.290	1.304	1.319	1.334	1.351	1.369	1.388	1.408	1.430	1.453	1.478	1.505	1.533	1.564	1.596	1.631	1.668	1.708	
18	1.256	1.268	1.281	1.294	1.308	1.323	1.339	1.356	1.374	1.394	1.415	1.437	1.461	1.487	1.514	1.543	1.574	1.607	1.643	1.680	
17	1.248	1.259	1.271	1.284	1.297	1.312	1.327	1.344	1.361	1.380	1.400	1.421	1.444	1.468	1.495	1.522	1.552	1.583	1.617	1.652	
16	1.239	1.250	1.262	1.274	1.287	1.301	1.315	1.331	1.348	1.366	1.385	1.405	1.427	1.450	1.475	1.501	1.529	1.559	1.591	1.625	
15	1.231	1.241	1.252	1.264	1.276	1.290	1.304	1.319	1.335	1.352	1.370	1.389	1.410	1.432	1.456	1.481	1.507	1.535	1.565	1.597	
14	1.222	1.232	1.243	1.254	1.266	1.278	1.292	1.306	1.321	1.338	1.355	1.373	1.393	1.414	1.436	1.460	1.485	1.512	1.540	1.570	
13	1.214	1.223	1.233	1.244	1.255	1.267	1.280	1.294	1.308	1.324	1.340	1.358	1.376	1.396	1.417	1.440	1.463	1.488	1.515	1.542	
12	1.205	1.214	1.224	1.234	1.245	1.256	1.268	1.281	1.295	1.310	1.325	1.342	1.360	1.378	1.398	1.419	1.441	1.465	1.490	1.516	
11	1.197	1.205	1.214	1.224	1.234	1.245	1.257	1.269	1.282	1.296	1.311	1.326	1.343	1.361	1.379	1.399	1.420	1.442	1.465	1.489	
10	1.188	1.197	1.205	1.214	1.224	1.234	1.245	1.257	1.269	1.282	1.296	1.311	1.327	1.343	1.361	1.379	1.399	1.419	1.441	1.463	
9	1.180	1.188	1.196	1.205	1.214	1.224	1.234	1.245	1.256	1.269	1.282	1.296	1.310	1.326	1.342	1.360	1.378	1.397	1.417	1.438	
8	1.172	1.179	1.187	1.195	1.204	1.213	1.223	1.233	1.244	1.255	1.268	1.281	1.294	1.309	1.324	1.340	1.357	1.375	1.393	1.413	
7	1.164	1.171	1.178	1.186	1.194	1.203	1.212	1.221	1.232	1.242	1.254	1.266	1.279	1.292	1.307	1.322	1.337	1.354	1.371	1.389	
6	1.156	1.162	1.169	1.177	1.184	1.192	1.201	1.210	1.219	1.230	1.240	1.252	1.264	1.276	1.289	1.303	1.318	1.333	1.349	1.365	
Beneficiary younger than Retiree	5	1.148	1.154	1.161	1.167	1.175	1.182	1.190	1.199	1.208	1.217	1.227	1.238	1.249	1.260	1.273	1.285	1.299	1.313	1.327	1.343
	4	1.140	1.146	1.152	1.159	1.165	1.172	1.180	1.188	1.196	1.205	1.214	1.224	1.234	1.245	1.256	1.268	1.280	1.293	1.307	1.321
	3	1.133	1.138	1.144	1.150	1.156	1.163	1.170	1.177	1.185	1.193	1.202	1.211	1.220	1.230	1.241	1.251	1.263	1.275	1.287	1.300
	2	1.126	1.131	1.136	1.142	1.148	1.154	1.160	1.167	1.174	1.181	1.189	1.198	1.207	1.216	1.225	1.235	1.246	1.257	1.268	1.280
	1	1.119	1.124	1.128	1.134	1.139	1.145	1.151	1.157	1.163	1.170	1.178	1.185	1.193	1.202	1.211	1.220	1.230	1.240	1.250	1.261
Beneficiary same age as Retiree	0	1.112	1.116	1.121	1.126	1.131	1.136	1.141	1.147	1.153	1.160	1.166	1.173	1.181	1.189	1.197	1.205	1.214	1.223	1.233	1.243
Beneficiary older than Retiree	-1	1.106	1.110	1.114	1.118	1.123	1.128	1.133	1.138	1.144	1.149	1.155	1.162	1.169	1.176	1.184	1.191	1.199	1.208	1.216	1.226
	-2	1.099	1.103	1.107	1.111	1.115	1.120	1.124	1.129	1.134	1.140	1.145	1.151	1.158	1.164	1.171	1.178	1.185	1.193	1.201	1.210
	-3	1.093	1.097	1.100	1.104	1.108	1.112	1.116	1.121	1.125	1.130	1.136	1.141	1.147	1.153	1.159	1.165	1.172	1.179	1.187	1.195
	-4	1.087	1.091	1.094	1.097	1.101	1.105	1.109	1.113	1.117	1.121	1.126	1.131	1.136	1.142	1.148	1.154	1.160	1.166	1.173	1.181
	-5	1.082	1.085	1.088	1.091	1.094	1.098	1.101	1.105	1.109	1.113	1.117	1.122	1.127	1.132	1.137	1.142	1.148	1.154	1.161	1.168
	-6	1.077	1.079	1.082	1.085	1.088	1.091	1.094	1.098	1.101	1.105	1.109	1.113	1.117	1.122	1.127	1.132	1.137	1.143	1.149	1.156
	-7	1.072	1.074	1.077	1.079	1.082	1.085	1.088	1.091	1.094	1.098	1.101	1.105	1.109	1.113	1.118	1.122	1.127	1.133	1.138	1.145
	-8	1.067	1.069	1.072	1.074	1.076	1.079	1.082	1.084	1.087	1.090	1.094	1.097	1.101	1.105	1.109	1.113	1.118	1.123	1.129	1.134
	-9	1.063	1.065	1.067	1.069	1.071	1.073	1.076	1.078	1.081	1.084	1.087	1.090	1.093	1.097	1.101	1.105	1.109	1.114	1.119	1.125
	-10	1.058	1.060	1.062	1.064	1.066	1.068	1.070	1.073	1.075	1.078	1.080	1.083	1.086	1.090	1.093	1.097	1.102	1.106	1.111	1.116
	-11	1.054	1.056	1.058	1.060	1.061	1.063	1.065	1.067	1.070	1.072	1.074	1.077	1.080	1.083	1.087	1.090	1.094	1.099	1.103	1.108
	-12	1.051	1.052	1.054	1.055	1.057	1.059	1.060	1.062	1.064	1.067	1.069	1.071	1.074	1.077	1.080	1.084	1.088	1.092	1.096	1.101
	-13	1.047	1.048	1.050	1.051	1.053	1.054	1.056	1.058	1.060	1.062	1.064	1.066	1.069	1.072	1.075	1.078	1.081	1.085	1.089	1.094
	-14	1.044	1.045	1.046	1.048	1.049	1.050	1.052	1.053	1.055	1.057	1.059	1.061	1.064	1.066	1.069	1.072	1.076	1.079	1.083	1.087
	-15	1.041	1.042	1.043	1.044	1.045	1.047	1.048	1.049	1.051	1.053	1.055	1.057	1.059	1.062	1.064	1.067	1.070	1.074	1.078	1.082
	-16	1.038	1.039	1.040	1.041	1.042	1.043	1.044	1.046	1.047	1.049	1.051	1.053	1.055	1.057	1.060	1.063	1.065	1.069	1.072	1.076
	-17	1.035	1.036	1.037	1.038	1.039	1.040	1.041	1.042	1.044	1.045	1.047	1.049	1.051	1.053	1.056	1.058	1.061	1.064	1.068	1.072
	-18	1.033	1.033	1.034	1.035	1.036	1.037	1.038	1.039	1.041	1.042	1.044	1.045	1.047	1.049	1.052	1.054	1.057	1.060	1.064	1.067
	-19	1.030	1.031	1.032	1.033	1.033	1.034	1.035	1.036	1.038	1.039	1.041	1.042	1.044	1.046	1.048	1.051	1.053	1.056	1.060	1.064
	-20	1.028	1.029	1.029	1.030	1.031	1.032	1.033	1.034	1.035	1.036	1.038	1.039	1.041	1.043	1.045	1.047	1.050	1.053	1.056	1.060