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## DEPARTMENT OF THE TREASURY

Internal Revenue Service

26 CFR Part 1

[TD 9930]

RIN 1545-BP11

Updated Life Expectancy and Distribution Period Tables Used for Purposes of Determining Minimum Required Distributions

AGENCY: Internal Revenue Service (IRS), Treasury.

ACTION: Final regulation.

SUMMARY: This document sets forth final regulations providing guidance relating to the life expectancy and distribution period tables that are used to calculate required minimum distributions from qualified retirement plans, individual retirement accounts and annuities, and certain other tax-favored employer-provided retirement arrangements. These regulations affect participants, beneficiaries, and plan administrators of these qualified retirement plans and other tax-favored employer-provided retirement arrangements, as well as owners, beneficiaries, trustees and custodians of individual retirement accounts and annuities.

DATES: Effective Date: The final regulations contained in this document are effective on **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

Applicability Date: The final regulations in this document apply to distribution calendar years (as defined in §1.401(a)(9)-5, Q&A-1(b)), beginning on or after January 1, 2022.

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SUPPLEMENTARY INFORMATION:

**Background**

This document includes amendments to the Income Tax Regulations (26 CFR part 1) under section 401(a)(9) of the Internal Revenue Code (Code) regarding the requirement to take required minimum distributions from qualified trusts. These regulations also apply with respect to the corresponding requirements for individual retirement accounts and annuities (IRAs) described in section 408(a) and (b), and eligible deferred compensation plans under section 457, as well as section 403(a) and 403(b) annuity contracts, custodial accounts, and retirement income accounts.

#### *I. Section 401(a)(9) and Related Statutory Provisions*

Section 401(a)(9) provides rules regarding minimum required distributions from qualified retirement plans. These rules ensure that the assets of a qualified retirement plan, which are afforded favorable tax treatment, are used primarily to provide retirement income to a participant, while allowing distributions to continue after the participant's death over the lifetime of the participant's surviving spouse or the life expectancy of certain designated beneficiaries. Accordingly, section 401(a)(9) provides that a qualified retirement plan must commence benefits to an employee no later than a specified age (or within a specified number of years after the employee's death) and, under the regulations, once benefits commence, the pattern of payment must meet certain standards to ensure that distributions are not unduly deferred.

Section 401(a)(9)(A) provides rules for distributions during the life of the employee. Section 401(a)(9)(A)(ii) provides that the entire interest of an employee in a qualified retirement plan must be distributed, beginning not later than the employee's required beginning date, in accordance with regulations, over the life of the employee or over the lives of the employee and a designated beneficiary (or over a period not extending beyond the life expectancy of the employee and a designated beneficiary).

Section 401(a)(9)(B) provides rules for distributions that are made after the death of the employee. Section 401(a)(9)(B)(i) provides that, if the employee dies after distributions have begun, the employee's interest must be distributed at least as rapidly

as under the method used by the employee. Section 401(a)(9)(B)(ii) provides a general rule that the employee's interest must be distributed within 5 years after the death of the employee if the employee dies before distributions have begun. Section 401(a)(9)(B)(iii) provides an exception to this 5-year rule if the employee has appointed a designated beneficiary. Under this exception, the 5-year rule is treated as satisfied if the employee's interest is distributed, in accordance with regulations, over the life or life expectancy of the designated beneficiary, provided that the distributions generally begin no later than 1 year after the date of the employee's death.<sup>1</sup> In addition, under section 401(a)(9)(B)(iv), if the designated beneficiary is the employee's surviving spouse, the beneficiary may wait until the date the employee would have attained age 72 to begin receiving required minimum distributions.

Section 401(a)(9)(C) defines the term *required beginning date* for employees (other than 5-percent owners and IRA owners) as April 1 of the calendar year following the later of the calendar year in which the employee attains age 72 or the calendar year in which the employee retires. For 5-percent owners and IRA owners, the required beginning date is April 1 of the calendar year following the calendar year in which the employee attains age 72, even if the employee has not retired.

Section 401(a)(9)(D) provides that, except in the case of a life annuity, the life expectancy of an employee and the employee's spouse that is used to determine the period over which payments must be made may be re-determined, but not more frequently than annually.

Section 401(a)(9)(E)(i) provides that the term *designated beneficiary* means any individual designated as a beneficiary by the employee. Section 401(a)(9)(E)(ii) provides that the term *eligible designated beneficiary* means any designated beneficiary who is (1) the surviving spouse of the employee; (2) a child of the employee who has

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<sup>1</sup> However, section 401(a)(9)(H)(ii) provides that, with respect to an eligible retirement plan defined in section 402(c)(8)(B) other than a defined benefit plan, the section 401(a)(9)(B)(iii) exception is only available in the case of an eligible designated beneficiary defined in section 401(a)(9)(E)(ii).

not reached the age of majority; (3) disabled within the meaning of section 72(m)(7); (4) an individual who is disabled under section 7702B(c)(2) with a disability of indefinite length which is expected to be lengthy in nature; or (5) an individual who is not more than 10 years younger than the employee. For this purpose, section 401(a)(9)(E)(ii) provides that the determination of whether a designated beneficiary is an eligible designated beneficiary is made as the date of the death of the employee.

Section 401(a)(9)(G) provides that any distribution required to satisfy the incidental death benefit requirement of section 401(a) is a required minimum distribution. The incidental death benefit requirement, which is set forth in §1.401-1(b)(1), provides that although a qualified pension or profit-sharing plan may provide for incidental death (or life insurance) benefits, the plan must be established and maintained primarily for the purpose of providing retirement benefits or deferred compensation.

Section 401(a)(9)(H) provides special rules for an eligible retirement plan described in section 402(c)(8)(B) that is not a defined benefit plan. Section 401(a)(9)(H)(i) provides that for such a plan, in the case of a designated beneficiary, section 401(a)(9)(B)(ii) is applied (1) by substituting 10 years for 5 years, and (2) without regard to whether distributions have begun prior to an employee's death. Section 401(a)(9)(H)(ii) provides that the section 401(a)(9)(B)(iii) exception to section 401(a)(9)(B)(ii), as modified, only applies in the case of an eligible designated beneficiary. Section 401(a)(9)(H)(iii) provides that if an eligible designated beneficiary dies prior to the distribution of the employee's entire interest, the remaining interest must be distributed within 10 years after the death of the eligible designated beneficiary.

Under sections 403(b)(10), 408(a)(6), 408(b), and 457(d)(2), requirements similar to the requirements of section 401(a)(9) apply to a number of types of retirement arrangements other than qualified retirement plans. However, pursuant to sections 408A(a) and (c)(5), those rules apply to a Roth IRA only after the death of the IRA

owner.<sup>2</sup> Pursuant to sections 403(a)(1) and 404(a)(2), qualified annuity plans also must comply with the requirements of section 401(a)(9).

## II. *Regulations under Section 401(a)(9)*

Sections 1.401(a)(9)-1 through 1.401(a)(9)-8 provide rules regarding the application of section 401(a)(9).<sup>3</sup> In the case of a defined contribution plan, §1.401(a)(9)-5 provides generally that an individual's required minimum distribution for a distribution calendar year is determined by dividing the individual's account balance determined under §1.401(a)(9)-5, Q&A-3, by the applicable distribution period. Under §1.401(a)(9)-5, Q&A-1(b), a distribution calendar year is a calendar year for which a minimum distribution is required. For example, if a 5-percent owner participating in a qualified retirement plan will attain age 72 during August of 2023 (so that the individual's required beginning date is April 1, 2024), then the individual's first distribution calendar year will be 2023, and the required minimum distribution for that year will be based on the applicable distribution period for a 72-year-old individual for 2023 (even though it is permitted to be paid at any time from January 1, 2023, through April 1, 2024).

Pursuant to §1.401(a)(9)-5, Q&A-4(a), for required minimum distributions during the employee's lifetime (including the year in which the employee dies), the applicable distribution period for an employee is the distribution period for the employee's age under the Uniform Lifetime Table (which is equal to the joint and last survivor life expectancy for the employee and a hypothetical beneficiary 10 years younger). However, pursuant to §1.401(a)(9)-5, Q&A-4(b), if an employee's sole beneficiary is the employee's surviving spouse and the spouse is more than 10 years younger than the employee, then the applicable distribution period is the joint and last survivor life expectancy of the employee and spouse under the Joint and Last Survivor Table (which

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<sup>2</sup> Note that section 401(a)(9)(H) does not apply to an eligible deferred compensation plan under section 457(b) maintained by an organization that is not an eligible employer described in section 457(e)(1)(A) (because such a plan is not an eligible retirement plan described in section 402(c)(8)(B)).

<sup>3</sup> Sections 1.401(a)(9)-1 through 1.401(a)(9)-8 reflect section 401(a)(9) as in effect in 2003 and have not been updated to reflect statutory changes in 2019 and 2020.

is longer than the distribution period that would apply for the employee under the Uniform Lifetime Table).

Pursuant to §1.401(a)(9)-5, Q&A-5, for distribution calendar years after the calendar year of the employee's death, the applicable distribution period generally is the remaining life expectancy of the designated beneficiary, subject to certain exceptions.<sup>4</sup> Two of these exceptions, which apply if the employee dies after the required beginning date, substitute the employee's remaining life expectancy for the beneficiary's remaining life expectancy. These two exceptions apply to an employee who does not have a designated beneficiary or who is younger than the designated beneficiary.<sup>5</sup>

Section 1.401(a)(9)-5, Q&A-5(c)(1) provides that the remaining life expectancy of the designated beneficiary is calculated as the life expectancy under the Single Life Table for the designated beneficiary's age in the calendar year following the calendar year of the employee's death, reduced by 1 for each subsequent year. However, if one of the two exceptions applies (so that the relevant life expectancy is the remaining life expectancy of the employee), then, pursuant to §1.401(a)(9)-5, Q&A-5(c)(3), the remaining life expectancy of the employee is calculated as the life expectancy under the Single Life Table for the employee's age in the calendar year of the employee's death, reduced by 1 for each subsequent year.

A special rule applies to determine the designated beneficiary's remaining life expectancy if the employee's sole beneficiary is the employee's surviving spouse. In that case, pursuant to §1.401(a)(9)-5, Q&A-5(c)(2), the surviving spouse's remaining life expectancy is recalculated each calendar year as the life expectancy under the Single Life Table for the surviving spouse's age in that year. Under §1.401(a)(9)-5, Q&A-5(c)(2), for calendar years after the year of the spouse's death, the distribution

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<sup>4</sup> Section 1.401(a)(9)-5, Q&A-5 has not been updated to reflect the enactment of section 401(a)(9)(H) but nonetheless is relevant for the transition rule that is described in the *Effective/Applicability Date* section of this preamble.

<sup>5</sup> Under 401(a)(9)(B)(ii), another exception applies if the employee dies before the required beginning date and has no designated beneficiary. In that case, the employee's entire interest must be distributed by the end of the calendar year that includes the fifth anniversary of the date of the employee's death.

period that applies for the spouse's beneficiary is the spouse's remaining life expectancy from the Single Life Table for the spouse's age for the calendar year of the spouse's death, reduced by 1 for each subsequent year.

Consistent with the policy of section 401(a)(9) to limit deferral of retirement income, §1.401(a)(9)-6, Q&A-1(a) provides that, except as otherwise provided in §1.401(a)(9)-6, payments from a defined benefit plan must be non-increasing in order to satisfy section 401(a)(9).<sup>6</sup> Section 1.401(a)(9)-6, Q&A-14(c) provides that, in the case of annuity payments paid from an annuity contract purchased from an insurance company, certain types of increasing payments will not cause an annuity payment stream to fail to satisfy this non-increasing payment requirement. These exceptions apply only if the total future expected payments under the annuity contract (determined in accordance with §1.401(a)(9)-6, Q&A-14(e)(3)), based on the life expectancy tables of §1.401(a)(9)-9, exceed the total value being annuitized (determined in accordance with §1.401(a)(9)-6, Q&A-14(e)(1)).

### III. *Life Expectancy and Distribution Period Tables of §1.401(a)(9)-9*

Section 1.401(a)(9)-9, as it appears in 26 CFR part 1 (revised as of April 1, 2020), provides life expectancy and distribution period tables that are used to apply the rules of §1.401(a)(9)-5 and to make the calculations in §1.401(a)(9)-6, Q&A-14. That regulation, referred to in this preamble as formerly applicable §1.401(a)(9)-9, was issued in 2002 (67 FR 18988), and the tables in formerly applicable §1.401(a)(9)-9 were developed using mortality rates for 2003. Those mortality rates were derived by applying mortality improvement through 2003 to the mortality rates from the Annuity 2000 Basic Table (which was the most recent individual annuity mortality table available in 2002).<sup>7</sup> The rates of mortality improvement used for this purpose were the ones that were used in developing the Annuity 2000 Basic Table. The resulting separate mortality

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<sup>6</sup> Pursuant to §1.401(a)(9)-8, Q&A-2(a)(3), the rules of §1.401(a)(9)-6 also apply to an annuity contract purchased under a defined contribution plan.

<sup>7</sup>The Annuity 2000 Basic Table was developed by projecting mortality rates from the 1983 Individual Annuity Mortality Basic Table.

rates for males and females were blended using a fixed 50 percent male/50 percent female blend.

The life expectancy tables and mortality rates are also relevant to the application of section 72(t), which imposes an additional income tax on early distributions from qualified retirement plans (including plans qualified under section 401(a) or section 403(a), annuity contracts and other arrangements described in section 403(b), and individual retirement arrangements described in section 408(a) or section 408(b)). Section 72(t)(2)(A)(iv) provides an exception from this additional income tax that applies in the case of a series of substantially equal periodic payments made for the life (or life expectancy) of the employee or the joint lives (or joint life expectancies) of the employee and the designated beneficiary. Revenue Ruling 2002-62, 2002-2 C.B. 710, provides that the life expectancy tables set forth in §1.401(a)(9)-9 may be used for purposes of determining payments that satisfy the exception under section 72(t)(2)(A)(iv). Rev. Rul. 2002-62 also sets forth a fixed annuitization method of determining payments that satisfy this exception. Under the fixed annuitization method, the annual payment for each year (which is determined only for the first year and not reset for subsequent years) is determined by dividing the account balance by an annuity factor that is the present value of an annuity of \$1 per year beginning at the taxpayer's age when the payments commence and continuing for the life of the taxpayer (or the joint lives of the taxpayer and his or her beneficiary). The annuity factor is derived using the mortality table used to develop the life expectancy tables set forth in §1.401(a)(9)-9.

#### *IV. Executive Order 13847 and Proposed Regulations*

Executive Order 13847, 83 FR 45321, which was signed on August 31, 2018, directs the Secretary of the Treasury to examine the life expectancy and distribution period tables in the regulations on required minimum distributions from retirement plans and determine whether they should be updated to reflect current mortality data and whether such updates should be made annually or on another periodic basis. The



purpose of any updates would be to increase the effectiveness of tax-favored retirement programs by allowing retirees to retain sufficient retirement savings in these programs for their later years.

On November 8, 2019, the Department of the Treasury (Treasury Department) and the IRS published proposed regulations (REG-132210-18) under section 401(a)(9) in the **Federal Register** (84 FR 60812) (the proposed regulations) setting out updated life expectancy and distribution tables. A public hearing on the proposed regulations was held on January 13, 2020. Fifty-five written comments were received, and two speakers provided oral comments at the public hearing. After consideration of the comments, the proposed regulations are adopted as revised by this Treasury decision.

## **Summary of Comments and Explanation of Provisions**

### *I. Overview*

In accordance with Executive Order 13847, the Treasury Department and the IRS have examined the life expectancy and distribution period tables in formerly applicable §1.401(a)(9)-9 and have reviewed currently available mortality data. As a result of this review, the Treasury Department and the IRS have determined that those tables should be updated to reflect current life expectancies. Accordingly, these regulations update those tables.

The life expectancy tables and applicable distribution period tables in these regulations generally reflect longer life expectancies than the tables in formerly applicable §1.401(a)(9)-9. For example, a 72-year-old IRA owner who applied the Uniform Lifetime Table under formerly applicable §1.401(a)(9)-9 to calculate required minimum distributions used a life expectancy of 25.6 years. Applying the Uniform Lifetime Table set forth in these regulations, a 72-year-old IRA owner will use a life expectancy of 27.4 years to calculate required minimum distributions. As another example, a 75-year-old surviving spouse who is the employee's sole beneficiary and applied the Single Life Table under formerly applicable §1.401(a)(9)-9 to compute

required minimum distributions used a life expectancy of 13.4 years. Under these regulations, a 75-year-old surviving spouse will use a life expectancy of 14.8 years. The effect of these changes is to reduce required minimum distributions generally, which will allow participants to retain larger amounts in their retirement plans to account for the possibility they may live longer.

## II. *Comments*

The Treasury Department and the IRS received a number of comments about the updated life expectancy and distribution period tables in the proposed regulations, the effective date for the use of the tables, and how often the tables should be updated. All of the comments received were in favor of the updating of the previously applicable tables.

Two commenters observed that, at some older ages, life expectancies in the proposed regulations were shorter than under formerly applicable §1.401(a)(9)-9. The life expectancy and distribution period tables in the proposed regulations were developed based on the mortality rates for purchasers of individual annuities, which are set forth in the experience tables used to develop the 2012 Individual Annuity Mortality Basic Table. These commenters recommended that the final regulations should instead provide life expectancy and distribution period tables developed based on the mortality rates set forth in the 2012 Individual Annuity Reserve Table. Those mortality rates were developed based on the same experience tables as the 2012 Individual Annuity Mortality Basic Table but reflect an adjustment to the mortality rates in the 2012 Individual Annuity Mortality Basic Table to provide a margin for conservatism for establishing life insurance company reserves (and therefore the use of those mortality rates would result in longer life expectancies than the life expectancies in the proposed regulations).<sup>8</sup>

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<sup>8</sup> The 2012 Individual Annuity Mortality Basic Table, the 2012 Individual Annuity Reserve Table, and methodology used to develop these tables can be found at [https://www.actuary.org/sites/default/files/files/publications/Payout\\_Annuity\\_Report\\_09-28-11.pdf](https://www.actuary.org/sites/default/files/files/publications/Payout_Annuity_Report_09-28-11.pdf)

The Treasury Department and the IRS reviewed the underlying data and methodology used to develop the mortality tables reflected in formerly applicable §1.401(a)(9)-9, as well as the 2012 Individual Annuity Mortality Basic Table and the 2012 Individual Annuity Reserve Table. Based on that review, the Treasury Department and the IRS determined that the life expectancies in formerly applicable §1.401(a)(9)-9 were based on an overestimate of the rate of mortality improvement, especially for individuals in their nineties. The Treasury Department and IRS also concluded that using a table based on the mortality experience of purchasers of individual annuities for purposes of determining required minimum distributions already applies longer life expectancies than expected for the general population,<sup>9</sup> so that reflecting the extra conservatism added to the mortality table that is used for purposes of determining insurance company reserves is not appropriate. Therefore, these regulations use mortality rates that are derived from the 2012 Individual Annuity Mortality Basic Table because those rates more accurately reflect empirical life expectancy data.

A number of commenters asked for changes in the minimum distribution rules that were not related to the life expectancy and distribution period tables in the proposed regulations, and many of these changes would require legislation. For example, some commenters asked for a change in the tax treatment of minimum distributions or for the elimination of the application of the minimum distribution requirements in certain circumstances. These comments were not adopted either because the Treasury Department and the IRS do not have the authority to make the changes in the absence of a statutory change or because the changes are otherwise beyond the scope of these regulations.

After the proposed regulations were published, the Setting Every Community Up for Retirement Enhancement Act (SECURE Act) was enacted as Division O of the

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<sup>9</sup> Using a table based on the mortality experience of purchasers of individual annuities generates longer life expectancies than expected for the general population because of anti-selection in that purchasers of individual annuities have chosen to purchase a product that rewards long life (and therefore are expected to have greater longevity than the general population).

Further Consolidated Appropriations Act, Pub. L. 116-94. The SECURE Act made two significant changes to section 401(a)(9): (1) it changed the required beginning date for an employee from April 1 of the year following the year the employee attains age 70½ to April 1 of the year following the year the employee attains age 72; and (2) it made adjustments to the required minimum distribution rules that apply after the death of the employee in the case of an eligible retirement plan described in section 402(c)(8)(B) that is not a defined benefit plan. The Treasury Department and the IRS expect to update the regulations under section 401(a)(9) to take into account the amendments to section 401(a)(9) made by the SECURE Act (including new section 401(a)(9)(H))<sup>10</sup> and in doing so will consider any comments on the proposed regulations to the extent that the comments, though beyond the scope of these regulations, are relevant in that context.

A number of commenters also requested that the effective date of the final regulations be delayed to 2022 (instead of 2021). They noted that plan sponsors and IRA providers are currently working to update their systems for the SECURE Act changes to section 401(a)(9) and recommended that the effective date of these regulations be delayed in order to allow administrators sufficient additional time to update systems for these regulations. As described in the *Effective/Applicability Date* section of this preamble, these regulations will apply to distribution calendar years beginning on or after January 1, 2022.

### III. *Updated Life Expectancy and Distribution Period Tables*

The life expectancy and distribution period tables in these regulations have been developed based on mortality rates for 2022. These mortality rates were derived by applying mortality improvement through 2022 to the mortality rates from the experience tables used to develop the 2012 Individual Annuity Mortality Basic Tables (which are the most recent individual annuity mortality tables). As was the case in the proposed

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<sup>10</sup> No interpretive inferences should be drawn from the references to section 401(a)(9)(H) included in this preamble and the regulations.

regulations, the separate mortality rates for males and females in these experience tables, which were based on the 2000-2004 Payout Annuity Mortality Experience Study,<sup>11</sup> have been projected from the central year of 2002 using the respective mortality improvement rates from the Mortality Improvement Scale MP-2018 for males and females.<sup>12</sup> The mortality table in these regulations was developed by blending the resulting separate mortality rates for males and females using a fixed 50 percent male/50 percent female blend.

The Single Life Table in these regulations sets forth life expectancies for each age, with the life expectancy for an age calculated as the sum of the probabilities of an individual at that age surviving to each future year. The resulting life expectancy is then increased by  $11/24$ <sup>13</sup> to approximate the effect of monthly payments and is subject to a floor of 1.0.

The Uniform Lifetime Table in these regulations sets forth joint and last survivor life expectancies for each age beginning with age 72, based on a hypothetical beneficiary.<sup>14</sup> Pursuant to §1.401(a)(9)-5, Q&A-4(a), the Uniform Lifetime Table is used for determining the distribution period for lifetime distributions to an employee in situations in which the employee's surviving spouse either is not the sole designated beneficiary or is the sole designated beneficiary but is not more than 10 years younger than the employee. The joint and last survivor life expectancy of an employee is taken from the Joint and Last Survivor Table using a hypothetical beneficiary who is assumed to be 10 years younger than the employee.

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<sup>11</sup> Information about the 2000-2004 Payout Annuity Mortality Experience Study and the experience tables, can be found at [https://www.actuary.org/sites/default/files/files/publications/Payout\\_Annuity\\_Report\\_09-28-11.pdf](https://www.actuary.org/sites/default/files/files/publications/Payout_Annuity_Report_09-28-11.pdf)

<sup>12</sup> The Mortality Improvement Scale MP-2018 can be found at <https://www.soa.org/experience-studies/2018/mortality-improvement-scale-mp-2018/>.

<sup>13</sup> Assuming an equal distribution of deaths throughout the year, if a retiree is scheduled to receive monthly payments on the last day of each month then, in the year of death, on average, the retiree would receive  $11/24^{\text{th}}$  of a full year's worth of payments.

<sup>14</sup> The proposed regulations included Uniform Lifetime Table entries beginning with age 70. These regulations do not include Uniform Lifetime Table entries for ages 70 and 71 because section 114 of the SECURE Act changed the minimum age for receiving required minimum distributions from age  $70\frac{1}{2}$  to age 72.

The Joint and Last Survivor Table sets forth joint and last survivor life expectancies of an employee and the employee's beneficiary for each combination of ages of those individuals. The joint and last survivor life expectancy for an employee and a beneficiary at a combination of ages is calculated as the sum of the probabilities of the employee surviving to each future year, plus the sum of the probabilities of the beneficiary surviving to each future year, minus the sum of the probabilities of both the employee and beneficiary surviving to each future year. The resulting joint and last survivor life expectancy is then increased by 11/24 to approximate the effect of monthly payments and is subject to a floor of 1.0.

The life expectancy tables in formerly applicable §1.401(a)(9)-9 are used in several numerical examples in §1.401(a)(9)-6, Q&A-14(f) that illustrate the availability of the exception described in §1.401(a)(9)-6, Q&A-14(c) (regarding certain increasing payments under insurance company annuity contracts). These regulations do not include revisions to these examples to reflect the life expectancy tables in these regulations. However, it is expected that the examples will be updated as part of the broader update of the regulations under section 401(a)(9) to take into account the SECURE Act.

In the preamble to the proposed regulations, the Treasury Department and the IRS asked for comments about how frequently to update the life expectancy and distribution period tables. A number of commenters cited the need to strike an appropriate balance between the benefit of providing updated tables and the administrative burden of frequent updates and suggested that life expectancy and distribution period tables not be updated annually. The frequency of updates suggested by commenters ranged from 4 to 10 years.

These regulations do not provide for automatic updates to the life expectancy and distribution period tables. The Treasury Department and the IRS currently

anticipate that they will review the tables at the earlier of: (1) 10 years or (2) whenever a new study of individual annuity mortality experience is published.

#### *IV. Effective/Applicability Date*

The life expectancy tables and Uniform Lifetime Table under these regulations apply for distribution calendar years beginning on or after January 1, 2022. Thus, for example, for an IRA owner who attained age 70 ½ in February of 2020 (so that the individual attains age 72 in August of 2021 and the individual's required beginning date is April 1, 2022), these regulations do not apply to the minimum required distribution for the individual's 2021 distribution calendar year (which is due April 1, 2022) but will apply to the minimum required distribution for the individual's 2022 distribution calendar year (which is due December 31, 2022).

These regulations include a transition rule that applies if an employee died before January 1, 2022, and, under the rules of §1.401(a)(9)-5, Q&A-5, the distribution period that applies for calendar years following the calendar year of the employee's death is equal to a single life expectancy calculated as of the calendar year of the employee's death (or if applicable, the year after the employee's death), reduced by 1 for each subsequent year. Under this transition rule, the initial life expectancy used to determine the distribution period is reset by using the new Single Life Table for the age of the relevant individual in the calendar year for which life expectancy was set under §1.401(a)(9)-5, Q&A-5(c). For distribution calendar years beginning on or after January 1, 2022, the distribution period is determined by reducing that initial life expectancy by 1 for each year subsequent to the year for which it was initially set, except as provided under section 401(a)(9)(H).

This transition rule could apply in three situations: (1) The employee died with a non-spousal eligible designated beneficiary (so that the applicable distribution period under §1.401(a)(9)-5, Q&A-5(c)(1), is determined based on the remaining life expectancy of the eligible designated beneficiary for the calendar year following the

calendar year of the employee's death); (2) the employee died after the required beginning date without a designated beneficiary (so that the applicable distribution period under §1.401(a)(9)-5, Q&A-5(c)(3), is determined based on the remaining life expectancy of the employee for the year of the employee's death); and (3) the employee, who is younger than the designated beneficiary, died after the required beginning date (so that the applicable distribution period under §1.401(a)(9)-5, Q&A-5(a)(1), is determined based on the remaining life expectancy of the employee for the year of the employee's death).

These regulations illustrate the application of this transition rule with an example involving an employee who died at age 80 in 2019 with a designated beneficiary (who was not the employee's spouse) who was age 75 in the year of the employee's death and who continues to be alive until at least 2022. For 2020, the distribution period that applies for the beneficiary is 12.7 years (the period applicable for a 76-year-old under the Single Life Table in formerly applicable §1.401(a)(9)-9), and for 2021, it is 11.7 years (the original distribution period, reduced by 1 year). For 2022, taking into account the life expectancy tables under these regulations and applying the transition rule, the applicable distribution period would be 12.1 years (the 14.1-year life expectancy for a 76-year-old under the Single Life Table in these regulations, reduced by 2 years).

A similar transition rule applies if an employee's sole beneficiary is the employee's surviving spouse and the spouse died before January 1, 2022. Under the rules of §1.401(a)(9)-5, Q&A-5(c)(2), the distribution period that applies for the spouse's beneficiary is equal to the single life expectancy for the spouse calculated for the calendar year of the spouse's death, reduced by 1 for each subsequent year. Under the transition rule, the initial life expectancy used to determine the distribution period is reset by using the new Single Life Table for the age of the spouse in the calendar year of the spouse's death. For distribution calendar years beginning on or after January 1, 2022, the distribution period is determined by reducing that initial life



expectancy by 1 for each year subsequent to the year for which it was initially set. However, this transition rule only applies to the extent consistent with section 401(a)(9)(H).

These transition rules, under which there is a one-time reset for the relevant life expectancy using the Single Life Table under these regulations, are designed to recognize that the general population has longer life expectancies than the life expectancies set forth in the formerly applicable §1.401(a)(9)-9. However, because the reset life expectancy is based on the age for which life expectancy was originally determined (rather than the relevant individual's current age), it is consistent with Congressional intent to limit recalculation of life expectancy to the employee and the employee's spouse.

#### *V. Use of Revised Tables to Determine Substantially Equal Periodic Payments*

The Treasury Department and the IRS anticipate issuing guidance that would update Rev. Rul. 2002-62. This update would apply the life expectancy, distribution period, and mortality tables set forth in these regulations for purposes of determining substantially equal periodic payments once these regulations become effective.

#### **Special Analyses**

These regulations are not subject to review under section 6(b) of Executive Order 12866 pursuant to the Memorandum of Agreement (April 11, 2018) between the Treasury Department and the Office of Management and Budget regarding review of tax regulations.

It is hereby certified pursuant to the Regulatory Flexibility Act (5 U.S.C., chapter 6) that these regulations will not have a significant economic impact on a substantial number of small entities. These regulations apply to all employers that sponsor defined contribution plans regardless of size. Although data are not available to estimate the number of small entities affected, the rule may affect a substantial number. This rule updates life expectancies that are required to be used by statute.

Although the rule may affect a substantial number of small entities, the economic impact of these regulations is not likely to be significant. Small businesses generally comply with the minimum required distribution rules using either third-party administrators or software, creating economies of scale that mitigate the cost of updating life expectancy tables. That software is updated periodically irrespective of a change in life expectancies used to determine minimum required distributions. The portion of the cost of a periodic update that is attributable to the implementation of the life expectancy and distribution period tables in these regulations will be spread over the client base of a service provider that uses software developed in-house and over the group of purchasers of generally-available plan administration software. Because, in either case, the cost of changing software to implement the updated life expectancies is spread over a large group of businesses that maintain retirement plans, it is estimated that the incremental cost for each affected small businesses as a result of the use of updated life expectancies is not significant.

Pursuant to section 7805(f) of the Code, the notice of proposed rulemaking preceding this regulation was submitted to the Chief Counsel for Advocacy of the Small Business Administration for comment on its impact on small entities. No comments were received from the Chief Counsel for the Office of Advocacy of the Small Business Administration.

### **Drafting Information**

The principal authors of these regulations are Arslan Malik and Linda S. F. Marshall, of the Office of the Associate Chief Counsel (Employee Benefits, Exempt Organizations, and Employment Taxes). However, other personnel from the Treasury Department and the IRS participated in the development of the proposed regulations.

### **List of Subjects in 26 CFR Part 1**

Income taxes, Reporting and recordkeeping requirements.

## **Amendments to the Regulations**

Accordingly, 26 CFR part 1 is amended as follows:

### **PART 1 – INCOME TAX**

Paragraph 1. The authority citation for part 1 continues to read in part as follows:

Authority: 26 U.S.C. 401(m)(9) and 26 U.S.C. 7805.

\* \* \* \* \*

#### **§ 1.401(a)(9)-5 [Amended]**

Par. 2. Section 1.401(a)(9)-5 is amended by:

1. Removing the language “A-1 of § 1.401(a)(9)-9” wherever it appears and adding “§1.401(a)(9)-9(b)” in its place.
2. Removing the language “A-2 of § 1.401(a)(9)-9” wherever it appears and adding “§1.401(a)(9)-9(c)” in its place.
3. Removing the language “A-3 of § 1.401(a)(9)-9” wherever it appears and adding “§1.401(a)(9)-9(d)” in its place.

#### **§1.401(a)(9)-6 [Amended]**

Par. 3. Section 1.401(a)(9)-6 is amended by:

1. Removing the language “A-1 of § 1.401(a)(9)-9” wherever it appears and adding “§1.401(a)(9)-9(b)” in its place.
2. Removing the language “A-2 of § 1.401(a)(9)-9” wherever it appears and adding “§1.401(a)(9)-9(c)” in its place.
3. Removing the language “A-3 of in § 1.401(a)(9)-9” wherever it appears and adding “§1.401(a)(9)-9(d)” in its place.

#### **§1.401(a)(9)-8 [Amended]**

Par. 4. Section 1.401(a)(9)-8 is amended by removing the language “A-2 of §1.401(a)(9)-9” wherever it appears and adding “§1.401(a)(9)-9(c)” in its place.

Par. 5. Section 1.401(a)(9)-9 is revised to read as follows:

#### **§1.401(a)(9)-9 Life expectancy and distribution period tables.**

(a) *In general.* This section specifies the life expectancy and applicable distribution period tables that apply for purposes of determining required minimum distributions under section 401(a)(9). Paragraphs (b), (c), and (d) of this section set forth these tables. Paragraph (e) of this section provides the mortality rates that are used to develop these tables. Paragraph (f) of this section provides applicability date rules.

(b) *Single Life Table.* The following table, referred to as the Single Life Table, sets forth the life expectancy of an individual at each age.

Table 1 to Paragraph (b)

<i>Age</i>	<i>Life expectancy</i>
0	84.6
1	83.7
2	82.8
3	81.8
4	80.8
5	79.8
6	78.8
7	77.9
8	76.9
9	75.9
10	74.9
11	73.9
12	72.9
13	71.9
14	70.9
15	69.9
16	69.0

17	68.0
18	67.0
19	66.0
20	65.0
21	64.1
22	63.1
23	62.1
24	61.1
25	60.2
26	59.2
27	58.2
28	57.3
29	56.3
30	55.3
31	54.4
32	53.4
33	52.5
34	51.5
35	50.5
36	49.6
37	48.6
38	47.7
39	46.7
40	45.7
41	44.8
42	43.8

43	42.9
44	41.9
45	41.0
46	40.0
47	39.0
48	38.1
49	37.1
50	36.2
51	35.3
52	34.3
53	33.4
54	32.5
55	31.6
56	30.6
57	29.8
58	28.9
59	28.0
60	27.1
61	26.2
62	25.4
63	24.5
64	23.7
65	22.9
66	22.0
67	21.2
68	20.4

69	19.6
70	18.8
71	18.0
72	17.2
73	16.4
74	15.6
75	14.8
76	14.1
77	13.3
78	12.6
79	11.9
80	11.2
81	10.5
82	9.9
83	9.3
84	8.7
85	8.1
86	7.6
87	7.1
88	6.6
89	6.1
90	5.7
91	5.3
92	4.9
93	4.6
94	4.3

95	4.0
96	3.7
97	3.4
98	3.2
99	3.0
100	2.8
101	2.6
102	2.5
103	2.3
104	2.2
105	2.1
106	2.1
107	2.1
108	2.0
109	2.0
110	2.0
111	2.0
112	2.0
113	1.9
114	1.9
115	1.8
116	1.8
117	1.6
118	1.4
119	1.1
120 +	1.0



(c) *Uniform Lifetime Table*. The following table, referred to as the Uniform Lifetime Table, sets forth the distribution period that applies for lifetime distributions to an employee in situations in which the employee's surviving spouse is not the sole designated beneficiary. This table is also used if the employee's surviving spouse is the sole designated beneficiary but is not more than 10 years younger than the employee.

Table 2 to Paragraph (c)

<i>Age of employee</i>	<i>Distribution period</i>
72	27.4
73	26.5
74	25.5
75	24.6
76	23.7
77	22.9
78	22.0
79	21.1
80	20.2
81	19.4
82	18.5
83	17.7
84	16.8
85	16.0
86	15.2
87	14.4
88	13.7
89	12.9
90	12.2

91	11.5
92	10.8
93	10.1
94	9.5
95	8.9
96	8.4
97	7.8
98	7.3
99	6.8
100	6.4
101	6.0
102	5.6
103	5.2
104	4.9
105	4.6
106	4.3
107	4.1
108	3.9
109	3.7
110	3.5
111	3.4
112	3.3
113	3.1
114	3.0
115	2.9
116	2.8

117	2.7
118	2.5
119	2.3
120 +	2.0

(d) *Joint and Last Survivor Table*. The following table, referred to as the Joint and Last Survivor Table, is used for determining the joint and last survivor life expectancy of two individuals.

Table 3 to Paragraph (d)

<b>Ages</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>
0	91.9	91.4	91.0	90.5	90.1	89.7	89.4	89.0	88.7
1	91.4	90.9	90.4	90.0	89.5	89.1	88.8	88.4	88.1
2	91.0	90.4	89.9	89.4	89.0	88.5	88.1	87.8	87.4
3	90.5	90.0	89.4	88.9	88.4	88.0	87.6	87.1	86.8
4	90.1	89.5	89.0	88.4	87.9	87.4	87.0	86.6	86.2
5	89.7	89.1	88.6	88.0	87.4	86.9	86.5	86.0	85.6
6	89.4	88.8	88.1	87.6	87.0	86.5	85.9	85.5	85.0
7	89.0	88.4	87.8	87.1	86.6	86.0	85.5	84.9	84.5
8	88.7	88.1	87.4	86.8	86.2	85.6	85.0	84.5	83.9
9	88.4	87.8	87.1	86.4	85.8	85.2	84.6	84.0	83.5
10	88.2	87.5	86.8	86.1	85.4	84.8	84.2	83.6	83.0
11	87.9	87.2	86.5	85.8	85.1	84.4	83.8	83.2	82.6
12	87.7	87.0	86.2	85.5	84.8	84.1	83.4	82.8	82.2
13	87.5	86.7	86.0	85.2	84.5	83.8	83.1	82.4	81.8
14	87.3	86.5	85.7	85.0	84.2	83.5	82.8	82.1	81.4
15	87.1	86.3	85.5	84.7	84.0	83.2	82.5	81.8	81.1

16	86.9	86.1	85.3	84.5	83.7	83.0	82.2	81.5	80.8
17	86.8	86.0	85.1	84.3	83.5	82.7	82.0	81.2	80.5
18	86.6	85.8	85.0	84.1	83.3	82.5	81.7	81.0	80.2
19	86.5	85.7	84.8	84.0	83.1	82.3	81.5	80.7	80.0
20	86.4	85.5	84.7	83.8	83.0	82.2	81.3	80.5	79.8
21	86.2	85.4	84.5	83.7	82.8	82.0	81.2	80.3	79.5
22	86.1	85.3	84.4	83.5	82.7	81.8	81.0	80.2	79.3
23	86.0	85.2	84.3	83.4	82.5	81.7	80.8	80.0	79.2
24	85.9	85.1	84.2	83.3	82.4	81.6	80.7	79.8	79.0
25	85.9	85.0	84.1	83.2	82.3	81.4	80.6	79.7	78.8
26	85.8	84.9	84.0	83.1	82.2	81.3	80.4	79.6	78.7
27	85.7	84.8	83.9	83.0	82.1	81.2	80.3	79.4	78.6
28	85.6	84.7	83.8	82.9	82.0	81.1	80.2	79.3	78.4
29	85.6	84.7	83.8	82.8	81.9	81.0	80.1	79.2	78.3
30	85.5	84.6	83.7	82.8	81.8	80.9	80.0	79.1	78.2
31	85.4	84.6	83.6	82.7	81.8	80.9	79.9	79.0	78.1
32	85.4	84.5	83.6	82.6	81.7	80.8	79.9	78.9	78.0
33	85.3	84.5	83.5	82.6	81.6	80.7	79.8	78.9	77.9
34	85.3	84.4	83.5	82.5	81.6	80.7	79.7	78.8	77.9
35	85.3	84.4	83.4	82.5	81.5	80.6	79.7	78.7	77.8
36	85.2	84.3	83.4	82.4	81.5	80.5	79.6	78.7	77.7
37	85.2	84.3	83.3	82.4	81.4	80.5	79.5	78.6	77.7
38	85.2	84.3	83.3	82.3	81.4	80.4	79.5	78.6	77.6
39	85.1	84.2	83.3	82.3	81.4	80.4	79.5	78.5	77.6
40	85.1	84.2	83.2	82.3	81.3	80.4	79.4	78.5	77.5
41	85.1	84.2	83.2	82.2	81.3	80.3	79.4	78.4	77.5

42	85.0	84.1	83.2	82.2	81.3	80.3	79.3	78.4	77.4
43	85.0	84.1	83.1	82.2	81.2	80.3	79.3	78.3	77.4
44	85.0	84.1	83.1	82.2	81.2	80.2	79.3	78.3	77.3
45	85.0	84.1	83.1	82.1	81.2	80.2	79.2	78.3	77.3
46	84.9	84.0	83.1	82.1	81.1	80.2	79.2	78.2	77.3
47	84.9	84.0	83.1	82.1	81.1	80.2	79.2	78.2	77.3
48	84.9	84.0	83.0	82.1	81.1	80.1	79.2	78.2	77.2
49	84.9	84.0	83.0	82.1	81.1	80.1	79.1	78.2	77.2
50	84.9	84.0	83.0	82.0	81.1	80.1	79.1	78.1	77.2
51	84.8	84.0	83.0	82.0	81.0	80.1	79.1	78.1	77.2
52	84.8	83.9	83.0	82.0	81.0	80.1	79.1	78.1	77.1
53	84.8	83.9	83.0	82.0	81.0	80.0	79.1	78.1	77.1
54	84.8	83.9	82.9	82.0	81.0	80.0	79.0	78.1	77.1
55	84.8	83.9	82.9	82.0	81.0	80.0	79.0	78.1	77.1
56	84.8	83.9	82.9	81.9	81.0	80.0	79.0	78.0	77.1
57	84.8	83.9	82.9	81.9	81.0	80.0	79.0	78.0	77.0
58	84.8	83.9	82.9	81.9	80.9	80.0	79.0	78.0	77.0
59	84.7	83.9	82.9	81.9	80.9	80.0	79.0	78.0	77.0
60	84.7	83.8	82.9	81.9	80.9	79.9	79.0	78.0	77.0
61	84.7	83.8	82.9	81.9	80.9	79.9	79.0	78.0	77.0
62	84.7	83.8	82.9	81.9	80.9	79.9	78.9	78.0	77.0
63	84.7	83.8	82.9	81.9	80.9	79.9	78.9	78.0	77.0
64	84.7	83.8	82.8	81.9	80.9	79.9	78.9	77.9	77.0
65	84.7	83.8	82.8	81.9	80.9	79.9	78.9	77.9	77.0
66	84.7	83.8	82.8	81.9	80.9	79.9	78.9	77.9	76.9
67	84.7	83.8	82.8	81.9	80.9	79.9	78.9	77.9	76.9

68	84.7	83.8	82.8	81.8	80.9	79.9	78.9	77.9	76.9
69	84.7	83.8	82.8	81.8	80.9	79.9	78.9	77.9	76.9
70	84.7	83.8	82.8	81.8	80.9	79.9	78.9	77.9	76.9
71	84.7	83.8	82.8	81.8	80.9	79.9	78.9	77.9	76.9
72	84.7	83.8	82.8	81.8	80.9	79.9	78.9	77.9	76.9
73	84.6	83.8	82.8	81.8	80.8	79.9	78.9	77.9	76.9
74	84.6	83.8	82.8	81.8	80.8	79.9	78.9	77.9	76.9
75	84.6	83.8	82.8	81.8	80.8	79.9	78.9	77.9	76.9
76	84.6	83.8	82.8	81.8	80.8	79.9	78.9	77.9	76.9
77	84.6	83.8	82.8	81.8	80.8	79.8	78.9	77.9	76.9
78	84.6	83.8	82.8	81.8	80.8	79.8	78.9	77.9	76.9
79	84.6	83.8	82.8	81.8	80.8	79.8	78.9	77.9	76.9
80	84.6	83.8	82.8	81.8	80.8	79.8	78.9	77.9	76.9
81	84.6	83.8	82.8	81.8	80.8	79.8	78.9	77.9	76.9
82	84.6	83.8	82.8	81.8	80.8	79.8	78.9	77.9	76.9
83	84.6	83.7	82.8	81.8	80.8	79.8	78.9	77.9	76.9
84	84.6	83.7	82.8	81.8	80.8	79.8	78.9	77.9	76.9
85	84.6	83.7	82.8	81.8	80.8	79.8	78.8	77.9	76.9
86	84.6	83.7	82.8	81.8	80.8	79.8	78.8	77.9	76.9
87	84.6	83.7	82.8	81.8	80.8	79.8	78.8	77.9	76.9
88	84.6	83.7	82.8	81.8	80.8	79.8	78.8	77.9	76.9
89	84.6	83.7	82.8	81.8	80.8	79.8	78.8	77.9	76.9
90	84.6	83.7	82.8	81.8	80.8	79.8	78.8	77.9	76.9
91	84.6	83.7	82.8	81.8	80.8	79.8	78.8	77.9	76.9
92	84.6	83.7	82.8	81.8	80.8	79.8	78.8	77.9	76.9
93	84.6	83.7	82.8	81.8	80.8	79.8	78.8	77.9	76.9

94	84.6	83.7	82.8	81.8	80.8	79.8	78.8	77.9	76.9
95	84.6	83.7	82.8	81.8	80.8	79.8	78.8	77.9	76.9
96	84.6	83.7	82.8	81.8	80.8	79.8	78.8	77.9	76.9
97	84.6	83.7	82.8	81.8	80.8	79.8	78.8	77.9	76.9
98	84.6	83.7	82.8	81.8	80.8	79.8	78.8	77.9	76.9
99	84.6	83.7	82.8	81.8	80.8	79.8	78.8	77.9	76.9
100	84.6	83.7	82.8	81.8	80.8	79.8	78.8	77.9	76.9
101	84.6	83.7	82.8	81.8	80.8	79.8	78.8	77.9	76.9
102	84.6	83.7	82.8	81.8	80.8	79.8	78.8	77.9	76.9
103	84.6	83.7	82.8	81.8	80.8	79.8	78.8	77.9	76.9
104	84.6	83.7	82.8	81.8	80.8	79.8	78.8	77.9	76.9
105	84.6	83.7	82.8	81.8	80.8	79.8	78.8	77.9	76.9
106	84.6	83.7	82.8	81.8	80.8	79.8	78.8	77.9	76.9
107	84.6	83.7	82.8	81.8	80.8	79.8	78.8	77.9	76.9
108	84.6	83.7	82.8	81.8	80.8	79.8	78.8	77.9	76.9
109	84.6	83.7	82.8	81.8	80.8	79.8	78.8	77.9	76.9
110	84.6	83.7	82.8	81.8	80.8	79.8	78.8	77.9	76.9
111	84.6	83.7	82.8	81.8	80.8	79.8	78.8	77.9	76.9
112	84.6	83.7	82.8	81.8	80.8	79.8	78.8	77.9	76.9
113	84.6	83.7	82.8	81.8	80.8	79.8	78.8	77.9	76.9
114	84.6	83.7	82.8	81.8	80.8	79.8	78.8	77.9	76.9
115	84.6	83.7	82.8	81.8	80.8	79.8	78.8	77.9	76.9
116	84.6	83.7	82.8	81.8	80.8	79.8	78.8	77.9	76.9
117	84.6	83.7	82.8	81.8	80.8	79.8	78.8	77.9	76.9
118	84.6	83.7	82.8	81.8	80.8	79.8	78.8	77.9	76.9
119	84.6	83.7	82.8	81.8	80.8	79.8	78.8	77.9	76.9

120+	84.6	83.7	82.8	81.8	80.8	79.8	78.8	77.9	76.9
<b>Ages</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>
0	88.4	88.2	87.9	87.7	87.5	87.3	87.1	86.9	86.8
1	87.8	87.5	87.2	87.0	86.7	86.5	86.3	86.1	86.0
2	87.1	86.8	86.5	86.2	86.0	85.7	85.5	85.3	85.1
3	86.4	86.1	85.8	85.5	85.2	85.0	84.7	84.5	84.3
4	85.8	85.4	85.1	84.8	84.5	84.2	84.0	83.7	83.5
5	85.2	84.8	84.4	84.1	83.8	83.5	83.2	83.0	82.7
6	84.6	84.2	83.8	83.4	83.1	82.8	82.5	82.2	82.0
7	84.0	83.6	83.2	82.8	82.4	82.1	81.8	81.5	81.2
8	83.5	83.0	82.6	82.2	81.8	81.4	81.1	80.8	80.5
9	82.9	82.5	82.0	81.6	81.2	80.8	80.4	80.1	79.8
10	82.5	81.9	81.5	81.0	80.6	80.2	79.8	79.4	79.1
11	82.0	81.5	80.9	80.5	80.0	79.6	79.2	78.8	78.4
12	81.6	81.0	80.5	79.9	79.5	79.0	78.6	78.2	77.8
13	81.2	80.6	80.0	79.5	79.0	78.5	78.0	77.6	77.2
14	80.8	80.2	79.6	79.0	78.5	78.0	77.5	77.0	76.6
15	80.4	79.8	79.2	78.6	78.0	77.5	77.0	76.5	76.0
16	80.1	79.4	78.8	78.2	77.6	77.0	76.5	76.0	75.5
17	79.8	79.1	78.4	77.8	77.2	76.6	76.0	75.5	75.0
18	79.5	78.8	78.1	77.4	76.8	76.2	75.6	75.0	74.5
19	79.2	78.5	77.8	77.1	76.4	75.8	75.2	74.6	74.0
20	79.0	78.2	77.5	76.8	76.1	75.4	74.8	74.2	73.6
21	78.8	78.0	77.2	76.5	75.8	75.1	74.4	73.8	73.2
22	78.5	77.8	77.0	76.2	75.5	74.8	74.1	73.4	72.8
23	78.3	77.5	76.8	76.0	75.2	74.5	73.8	73.1	72.5



24	78.2	77.3	76.5	75.8	75.0	74.2	73.5	72.8	72.1
25	78.0	77.2	76.4	75.6	74.8	74.0	73.3	72.5	71.8
26	77.8	77.0	76.2	75.4	74.6	73.8	73.0	72.3	71.5
27	77.7	76.8	76.0	75.2	74.4	73.6	72.8	72.0	71.3
28	77.6	76.7	75.8	75.0	74.2	73.4	72.6	71.8	71.0
29	77.4	76.6	75.7	74.9	74.0	73.2	72.4	71.6	70.8
30	77.3	76.4	75.6	74.7	73.9	73.0	72.2	71.4	70.6
31	77.2	76.3	75.5	74.6	73.7	72.9	72.0	71.2	70.4
32	77.1	76.2	75.3	74.5	73.6	72.7	71.9	71.0	70.2
33	77.0	76.1	75.2	74.3	73.5	72.6	71.7	70.9	70.0
34	77.0	76.0	75.1	74.2	73.3	72.5	71.6	70.7	69.9
35	76.9	76.0	75.0	74.1	73.2	72.4	71.5	70.6	69.7
36	76.8	75.9	75.0	74.0	73.1	72.2	71.4	70.5	69.6
37	76.7	75.8	74.9	74.0	73.1	72.1	71.3	70.4	69.5
38	76.7	75.7	74.8	73.9	73.0	72.1	71.2	70.3	69.4
39	76.6	75.7	74.7	73.8	72.9	72.0	71.1	70.2	69.3
40	76.6	75.6	74.7	73.7	72.8	71.9	71.0	70.1	69.2
41	76.5	75.6	74.6	73.7	72.8	71.8	70.9	70.0	69.1
42	76.5	75.5	74.6	73.6	72.7	71.8	70.8	69.9	69.0
43	76.4	75.5	74.5	73.6	72.6	71.7	70.8	69.8	68.9
44	76.4	75.4	74.5	73.5	72.6	71.6	70.7	69.8	68.8
45	76.4	75.4	74.4	73.5	72.5	71.6	70.6	69.7	68.8
46	76.3	75.4	74.4	73.4	72.5	71.5	70.6	69.7	68.7
47	76.3	75.3	74.4	73.4	72.4	71.5	70.5	69.6	68.7
48	76.3	75.3	74.3	73.4	72.4	71.5	70.5	69.6	68.6
49	76.2	75.3	74.3	73.3	72.4	71.4	70.5	69.5	68.6

50	76.2	75.2	74.3	73.3	72.3	71.4	70.4	69.5	68.5
51	76.2	75.2	74.2	73.3	72.3	71.3	70.4	69.4	68.5
52	76.2	75.2	74.2	73.2	72.3	71.3	70.4	69.4	68.4
53	76.1	75.2	74.2	73.2	72.3	71.3	70.3	69.4	68.4
54	76.1	75.1	74.2	73.2	72.2	71.3	70.3	69.3	68.4
55	76.1	75.1	74.2	73.2	72.2	71.2	70.3	69.3	68.3
56	76.1	75.1	74.1	73.2	72.2	71.2	70.2	69.3	68.3
57	76.1	75.1	74.1	73.1	72.2	71.2	70.2	69.3	68.3
58	76.1	75.1	74.1	73.1	72.1	71.2	70.2	69.2	68.3
59	76.0	75.1	74.1	73.1	72.1	71.2	70.2	69.2	68.2
60	76.0	75.0	74.1	73.1	72.1	71.1	70.2	69.2	68.2
61	76.0	75.0	74.1	73.1	72.1	71.1	70.1	69.2	68.2
62	76.0	75.0	74.0	73.1	72.1	71.1	70.1	69.2	68.2
63	76.0	75.0	74.0	73.0	72.1	71.1	70.1	69.1	68.2
64	76.0	75.0	74.0	73.0	72.1	71.1	70.1	69.1	68.2
65	76.0	75.0	74.0	73.0	72.0	71.1	70.1	69.1	68.1
66	76.0	75.0	74.0	73.0	72.0	71.1	70.1	69.1	68.1
67	76.0	75.0	74.0	73.0	72.0	71.0	70.1	69.1	68.1
68	75.9	75.0	74.0	73.0	72.0	71.0	70.1	69.1	68.1
69	75.9	75.0	74.0	73.0	72.0	71.0	70.0	69.1	68.1
70	75.9	74.9	74.0	73.0	72.0	71.0	70.0	69.1	68.1
71	75.9	74.9	74.0	73.0	72.0	71.0	70.0	69.0	68.1
72	75.9	74.9	73.9	73.0	72.0	71.0	70.0	69.0	68.1
73	75.9	74.9	73.9	73.0	72.0	71.0	70.0	69.0	68.1
74	75.9	74.9	73.9	73.0	72.0	71.0	70.0	69.0	68.0
75	75.9	74.9	73.9	72.9	72.0	71.0	70.0	69.0	68.0

76	75.9	74.9	73.9	72.9	72.0	71.0	70.0	69.0	68.0
77	75.9	74.9	73.9	72.9	72.0	71.0	70.0	69.0	68.0
78	75.9	74.9	73.9	72.9	71.9	71.0	70.0	69.0	68.0
79	75.9	74.9	73.9	72.9	71.9	71.0	70.0	69.0	68.0
80	75.9	74.9	73.9	72.9	71.9	71.0	70.0	69.0	68.0
81	75.9	74.9	73.9	72.9	71.9	71.0	70.0	69.0	68.0
82	75.9	74.9	73.9	72.9	71.9	70.9	70.0	69.0	68.0
83	75.9	74.9	73.9	72.9	71.9	70.9	70.0	69.0	68.0
84	75.9	74.9	73.9	72.9	71.9	70.9	70.0	69.0	68.0
85	75.9	74.9	73.9	72.9	71.9	70.9	70.0	69.0	68.0
86	75.9	74.9	73.9	72.9	71.9	70.9	70.0	69.0	68.0
87	75.9	74.9	73.9	72.9	71.9	70.9	70.0	69.0	68.0
88	75.9	74.9	73.9	72.9	71.9	70.9	69.9	69.0	68.0
89	75.9	74.9	73.9	72.9	71.9	70.9	69.9	69.0	68.0
90	75.9	74.9	73.9	72.9	71.9	70.9	69.9	69.0	68.0
91	75.9	74.9	73.9	72.9	71.9	70.9	69.9	69.0	68.0
92	75.9	74.9	73.9	72.9	71.9	70.9	69.9	69.0	68.0
93	75.9	74.9	73.9	72.9	71.9	70.9	69.9	69.0	68.0
94	75.9	74.9	73.9	72.9	71.9	70.9	69.9	69.0	68.0
95	75.9	74.9	73.9	72.9	71.9	70.9	69.9	69.0	68.0
96	75.9	74.9	73.9	72.9	71.9	70.9	69.9	69.0	68.0
97	75.9	74.9	73.9	72.9	71.9	70.9	69.9	69.0	68.0
98	75.9	74.9	73.9	72.9	71.9	70.9	69.9	69.0	68.0
99	75.9	74.9	73.9	72.9	71.9	70.9	69.9	69.0	68.0
100	75.9	74.9	73.9	72.9	71.9	70.9	69.9	69.0	68.0
101	75.9	74.9	73.9	72.9	71.9	70.9	69.9	69.0	68.0

102	75.9	74.9	73.9	72.9	71.9	70.9	69.9	69.0	68.0
103	75.9	74.9	73.9	72.9	71.9	70.9	69.9	69.0	68.0
104	75.9	74.9	73.9	72.9	71.9	70.9	69.9	69.0	68.0
105	75.9	74.9	73.9	72.9	71.9	70.9	69.9	69.0	68.0
106	75.9	74.9	73.9	72.9	71.9	70.9	69.9	69.0	68.0
107	75.9	74.9	73.9	72.9	71.9	70.9	69.9	69.0	68.0
108	75.9	74.9	73.9	72.9	71.9	70.9	69.9	69.0	68.0
109	75.9	74.9	73.9	72.9	71.9	70.9	69.9	69.0	68.0
110	75.9	74.9	73.9	72.9	71.9	70.9	69.9	69.0	68.0
111	75.9	74.9	73.9	72.9	71.9	70.9	69.9	69.0	68.0
112	75.9	74.9	73.9	72.9	71.9	70.9	69.9	69.0	68.0
113	75.9	74.9	73.9	72.9	71.9	70.9	69.9	69.0	68.0
114	75.9	74.9	73.9	72.9	71.9	70.9	69.9	69.0	68.0
115	75.9	74.9	73.9	72.9	71.9	70.9	69.9	69.0	68.0
116	75.9	74.9	73.9	72.9	71.9	70.9	69.9	69.0	68.0
117	75.9	74.9	73.9	72.9	71.9	70.9	69.9	69.0	68.0
118	75.9	74.9	73.9	72.9	71.9	70.9	69.9	69.0	68.0
119	75.9	74.9	73.9	72.9	71.9	70.9	69.9	69.0	68.0
120+	75.9	74.9	73.9	72.9	71.9	70.9	69.9	69.0	68.0
<b>Ages</b>	<b>18</b>	<b>19</b>	<b>20</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>24</b>	<b>25</b>	<b>26</b>
0	86.6	86.5	86.4	86.2	86.1	86.0	85.9	85.9	85.8
1	85.8	85.7	85.5	85.4	85.3	85.2	85.1	85.0	84.9
2	85.0	84.8	84.7	84.5	84.4	84.3	84.2	84.1	84.0
3	84.1	84.0	83.8	83.7	83.5	83.4	83.3	83.2	83.1
4	83.3	83.1	83.0	82.8	82.7	82.5	82.4	82.3	82.2
5	82.5	82.3	82.2	82.0	81.8	81.7	81.6	81.4	81.3

6	81.7	81.5	81.3	81.2	81.0	80.8	80.7	80.6	80.4
7	81.0	80.7	80.5	80.3	80.2	80.0	79.8	79.7	79.6
8	80.2	80.0	79.8	79.5	79.3	79.2	79.0	78.8	78.7
9	79.5	79.2	79.0	78.8	78.5	78.3	78.2	78.0	77.8
10	78.8	78.5	78.2	78.0	77.8	77.5	77.3	77.2	77.0
11	78.1	77.8	77.5	77.2	77.0	76.8	76.5	76.4	76.2
12	77.4	77.1	76.8	76.5	76.2	76.0	75.8	75.6	75.4
13	76.8	76.4	76.1	75.8	75.5	75.2	75.0	74.8	74.6
14	76.2	75.8	75.4	75.1	74.8	74.5	74.2	74.0	73.8
15	75.6	75.2	74.8	74.4	74.1	73.8	73.5	73.3	73.0
16	75.0	74.6	74.2	73.8	73.4	73.1	72.8	72.5	72.3
17	74.5	74.0	73.6	73.2	72.8	72.5	72.1	71.8	71.5
18	74.0	73.5	73.0	72.6	72.2	71.8	71.5	71.1	70.8
19	73.5	73.0	72.5	72.0	71.6	71.2	70.8	70.5	70.1
20	73.0	72.5	72.0	71.5	71.0	70.6	70.2	69.8	69.5
21	72.6	72.0	71.5	71.0	70.5	70.0	69.6	69.2	68.8
22	72.2	71.6	71.0	70.5	70.0	69.5	69.0	68.6	68.2
23	71.8	71.2	70.6	70.0	69.5	69.0	68.5	68.0	67.6
24	71.5	70.8	70.2	69.6	69.0	68.5	68.0	67.5	67.1
25	71.1	70.5	69.8	69.2	68.6	68.0	67.5	67.0	66.5
26	70.8	70.1	69.5	68.8	68.2	67.6	67.1	66.5	66.0
27	70.5	69.8	69.1	68.5	67.8	67.2	66.6	66.1	65.5
28	70.3	69.5	68.8	68.1	67.5	66.8	66.2	65.6	65.1
29	70.0	69.3	68.5	67.8	67.1	66.5	65.8	65.2	64.6
30	69.8	69.0	68.3	67.5	66.8	66.2	65.5	64.9	64.2
31	69.6	68.8	68.0	67.3	66.6	65.8	65.2	64.5	63.9

32	69.4	68.6	67.8	67.0	66.3	65.6	64.9	64.2	63.5
33	69.2	68.4	67.6	66.8	66.0	65.3	64.6	63.9	63.2
34	69.0	68.2	67.4	66.6	65.8	65.1	64.3	63.6	62.9
35	68.9	68.0	67.2	66.4	65.6	64.8	64.1	63.3	62.6
36	68.7	67.9	67.1	66.2	65.4	64.6	63.8	63.1	62.3
37	68.6	67.7	66.9	66.1	65.2	64.4	63.6	62.8	62.1
38	68.5	67.6	66.8	65.9	65.1	64.2	63.4	62.6	61.9
39	68.4	67.5	66.6	65.8	64.9	64.1	63.3	62.4	61.6
40	68.3	67.4	66.5	65.6	64.8	63.9	63.1	62.3	61.5
41	68.2	67.3	66.4	65.5	64.6	63.8	62.9	62.1	61.3
42	68.1	67.2	66.3	65.4	64.5	63.6	62.8	61.9	61.1
43	68.0	67.1	66.2	65.3	64.4	63.5	62.7	61.8	61.0
44	67.9	67.0	66.1	65.2	64.3	63.4	62.5	61.7	60.8
45	67.9	66.9	66.0	65.1	64.2	63.3	62.4	61.5	60.7
46	67.8	66.9	65.9	65.0	64.1	63.2	62.3	61.4	60.6
47	67.7	66.8	65.9	65.0	64.0	63.1	62.2	61.3	60.5
48	67.7	66.7	65.8	64.9	64.0	63.0	62.1	61.2	60.3
49	67.6	66.7	65.7	64.8	63.9	63.0	62.1	61.2	60.3
50	67.6	66.6	65.7	64.8	63.8	62.9	62.0	61.1	60.2
51	67.5	66.6	65.6	64.7	63.8	62.8	61.9	61.0	60.1
52	67.5	66.5	65.6	64.7	63.7	62.8	61.9	60.9	60.0
53	67.4	66.5	65.5	64.6	63.7	62.7	61.8	60.9	59.9
54	67.4	66.5	65.5	64.6	63.6	62.7	61.7	60.8	59.9
55	67.4	66.4	65.5	64.5	63.6	62.6	61.7	60.8	59.8
56	67.4	66.4	65.4	64.5	63.5	62.6	61.6	60.7	59.8
57	67.3	66.4	65.4	64.5	63.5	62.5	61.6	60.7	59.7

58	67.3	66.3	65.4	64.4	63.5	62.5	61.6	60.6	59.7
59	67.3	66.3	65.4	64.4	63.4	62.5	61.5	60.6	59.6
60	67.3	66.3	65.3	64.4	63.4	62.4	61.5	60.5	59.6
61	67.2	66.3	65.3	64.3	63.4	62.4	61.5	60.5	59.6
62	67.2	66.2	65.3	64.3	63.4	62.4	61.4	60.5	59.5
63	67.2	66.2	65.3	64.3	63.3	62.4	61.4	60.5	59.5
64	67.2	66.2	65.2	64.3	63.3	62.3	61.4	60.4	59.5
65	67.2	66.2	65.2	64.3	63.3	62.3	61.4	60.4	59.5
66	67.2	66.2	65.2	64.2	63.3	62.3	61.3	60.4	59.4
67	67.1	66.2	65.2	64.2	63.3	62.3	61.3	60.4	59.4
68	67.1	66.2	65.2	64.2	63.2	62.3	61.3	60.3	59.4
69	67.1	66.1	65.2	64.2	63.2	62.3	61.3	60.3	59.4
70	67.1	66.1	65.2	64.2	63.2	62.2	61.3	60.3	59.4
71	67.1	66.1	65.1	64.2	63.2	62.2	61.3	60.3	59.3
72	67.1	66.1	65.1	64.2	63.2	62.2	61.3	60.3	59.3
73	67.1	66.1	65.1	64.2	63.2	62.2	61.2	60.3	59.3
74	67.1	66.1	65.1	64.1	63.2	62.2	61.2	60.3	59.3
75	67.1	66.1	65.1	64.1	63.2	62.2	61.2	60.3	59.3
76	67.1	66.1	65.1	64.1	63.2	62.2	61.2	60.2	59.3
77	67.0	66.1	65.1	64.1	63.1	62.2	61.2	60.2	59.3
78	67.0	66.1	65.1	64.1	63.1	62.2	61.2	60.2	59.3
79	67.0	66.1	65.1	64.1	63.1	62.2	61.2	60.2	59.3
80	67.0	66.1	65.1	64.1	63.1	62.1	61.2	60.2	59.2
81	67.0	66.0	65.1	64.1	63.1	62.1	61.2	60.2	59.2
82	67.0	66.0	65.1	64.1	63.1	62.1	61.2	60.2	59.2
83	67.0	66.0	65.1	64.1	63.1	62.1	61.2	60.2	59.2

84	67.0	66.0	65.1	64.1	63.1	62.1	61.2	60.2	59.2
85	67.0	66.0	65.1	64.1	63.1	62.1	61.2	60.2	59.2
86	67.0	66.0	65.1	64.1	63.1	62.1	61.1	60.2	59.2
87	67.0	66.0	65.0	64.1	63.1	62.1	61.1	60.2	59.2
88	67.0	66.0	65.0	64.1	63.1	62.1	61.1	60.2	59.2
89	67.0	66.0	65.0	64.1	63.1	62.1	61.1	60.2	59.2
90	67.0	66.0	65.0	64.1	63.1	62.1	61.1	60.2	59.2
91	67.0	66.0	65.0	64.1	63.1	62.1	61.1	60.2	59.2
92	67.0	66.0	65.0	64.1	63.1	62.1	61.1	60.2	59.2
93	67.0	66.0	65.0	64.1	63.1	62.1	61.1	60.2	59.2
94	67.0	66.0	65.0	64.1	63.1	62.1	61.1	60.2	59.2
95	67.0	66.0	65.0	64.1	63.1	62.1	61.1	60.2	59.2
96	67.0	66.0	65.0	64.1	63.1	62.1	61.1	60.2	59.2
97	67.0	66.0	65.0	64.1	63.1	62.1	61.1	60.2	59.2
98	67.0	66.0	65.0	64.1	63.1	62.1	61.1	60.2	59.2
99	67.0	66.0	65.0	64.1	63.1	62.1	61.1	60.2	59.2
100	67.0	66.0	65.0	64.1	63.1	62.1	61.1	60.2	59.2
101	67.0	66.0	65.0	64.1	63.1	62.1	61.1	60.2	59.2
102	67.0	66.0	65.0	64.1	63.1	62.1	61.1	60.2	59.2
103	67.0	66.0	65.0	64.1	63.1	62.1	61.1	60.2	59.2
104	67.0	66.0	65.0	64.1	63.1	62.1	61.1	60.2	59.2
105	67.0	66.0	65.0	64.1	63.1	62.1	61.1	60.2	59.2
106	67.0	66.0	65.0	64.1	63.1	62.1	61.1	60.2	59.2
107	67.0	66.0	65.0	64.1	63.1	62.1	61.1	60.2	59.2
108	67.0	66.0	65.0	64.1	63.1	62.1	61.1	60.2	59.2
109	67.0	66.0	65.0	64.1	63.1	62.1	61.1	60.2	59.2



110	67.0	66.0	65.0	64.1	63.1	62.1	61.1	60.2	59.2
111	67.0	66.0	65.0	64.1	63.1	62.1	61.1	60.2	59.2
112	67.0	66.0	65.0	64.1	63.1	62.1	61.1	60.2	59.2
113	67.0	66.0	65.0	64.1	63.1	62.1	61.1	60.2	59.2
114	67.0	66.0	65.0	64.1	63.1	62.1	61.1	60.2	59.2
115	67.0	66.0	65.0	64.1	63.1	62.1	61.1	60.2	59.2
116	67.0	66.0	65.0	64.1	63.1	62.1	61.1	60.2	59.2
117	67.0	66.0	65.0	64.1	63.1	62.1	61.1	60.2	59.2
118	67.0	66.0	65.0	64.1	63.1	62.1	61.1	60.2	59.2
119	67.0	66.0	65.0	64.1	63.1	62.1	61.1	60.2	59.2
120+	67.0	66.0	65.0	64.1	63.1	62.1	61.1	60.2	59.2
<b>Ages</b>	<b>27</b>	<b>28</b>	<b>29</b>	<b>30</b>	<b>31</b>	<b>32</b>	<b>33</b>	<b>34</b>	<b>35</b>
0	85.7	85.6	85.6	85.5	85.4	85.4	85.3	85.3	85.3
1	84.8	84.7	84.7	84.6	84.6	84.5	84.5	84.4	84.4
2	83.9	83.8	83.8	83.7	83.6	83.6	83.5	83.5	83.4
3	83.0	82.9	82.8	82.8	82.7	82.6	82.6	82.5	82.5
4	82.1	82.0	81.9	81.8	81.8	81.7	81.6	81.6	81.5
5	81.2	81.1	81.0	80.9	80.9	80.8	80.7	80.7	80.6
6	80.3	80.2	80.1	80.0	79.9	79.9	79.8	79.7	79.7
7	79.4	79.3	79.2	79.1	79.0	78.9	78.9	78.8	78.7
8	78.6	78.4	78.3	78.2	78.1	78.0	77.9	77.9	77.8
9	77.7	77.6	77.4	77.3	77.2	77.1	77.0	77.0	76.9
10	76.8	76.7	76.6	76.4	76.3	76.2	76.1	76.0	76.0
11	76.0	75.8	75.7	75.6	75.5	75.3	75.2	75.1	75.0
12	75.2	75.0	74.9	74.7	74.6	74.5	74.3	74.2	74.1
13	74.4	74.2	74.0	73.9	73.7	73.6	73.5	73.3	73.2

14	73.6	73.4	73.2	73.0	72.9	72.7	72.6	72.5	72.4
15	72.8	72.6	72.4	72.2	72.0	71.9	71.7	71.6	71.5
16	72.0	71.8	71.6	71.4	71.2	71.0	70.9	70.7	70.6
17	71.3	71.0	70.8	70.6	70.4	70.2	70.0	69.9	69.7
18	70.5	70.3	70.0	69.8	69.6	69.4	69.2	69.0	68.9
19	69.8	69.5	69.3	69.0	68.8	68.6	68.4	68.2	68.0
20	69.1	68.8	68.5	68.3	68.0	67.8	67.6	67.4	67.2
21	68.5	68.1	67.8	67.5	67.3	67.0	66.8	66.6	66.4
22	67.8	67.5	67.1	66.8	66.6	66.3	66.0	65.8	65.6
23	67.2	66.8	66.5	66.2	65.8	65.6	65.3	65.1	64.8
24	66.6	66.2	65.8	65.5	65.2	64.9	64.6	64.3	64.1
25	66.1	65.6	65.2	64.9	64.5	64.2	63.9	63.6	63.3
26	65.5	65.1	64.6	64.2	63.9	63.5	63.2	62.9	62.6
27	65.0	64.5	64.1	63.7	63.2	62.9	62.5	62.2	61.9
28	64.5	64.0	63.5	63.1	62.7	62.3	61.9	61.5	61.2
29	64.1	63.5	63.0	62.6	62.1	61.7	61.3	60.9	60.5
30	63.7	63.1	62.6	62.0	61.6	61.1	60.7	60.3	59.9
31	63.2	62.7	62.1	61.6	61.1	60.6	60.1	59.7	59.3
32	62.9	62.3	61.7	61.1	60.6	60.1	59.6	59.1	58.7
33	62.5	61.9	61.3	60.7	60.1	59.6	59.1	58.6	58.1
34	62.2	61.5	60.9	60.3	59.7	59.1	58.6	58.1	57.6
35	61.9	61.2	60.5	59.9	59.3	58.7	58.1	57.6	57.1
36	61.6	60.9	60.2	59.5	58.9	58.3	57.7	57.2	56.6
37	61.3	60.6	59.9	59.2	58.6	57.9	57.3	56.7	56.2
38	61.1	60.3	59.6	58.9	58.2	57.6	56.9	56.3	55.7
39	60.9	60.1	59.4	58.6	57.9	57.2	56.6	55.9	55.3

40	60.7	59.9	59.1	58.4	57.6	56.9	56.3	55.6	55.0
41	60.5	59.7	58.9	58.1	57.4	56.7	56.0	55.3	54.6
42	60.3	59.5	58.7	57.9	57.1	56.4	55.7	55.0	54.3
43	60.1	59.3	58.5	57.7	56.9	56.2	55.4	54.7	54.0
44	60.0	59.1	58.3	57.5	56.7	55.9	55.2	54.4	53.7
45	59.8	59.0	58.1	57.3	56.5	55.7	54.9	54.2	53.4
46	59.7	58.8	58.0	57.2	56.3	55.5	54.7	54.0	53.2
47	59.6	58.7	57.9	57.0	56.2	55.4	54.5	53.7	53.0
48	59.5	58.6	57.7	56.9	56.0	55.2	54.4	53.6	52.8
49	59.4	58.5	57.6	56.7	55.9	55.0	54.2	53.4	52.6
50	59.3	58.4	57.5	56.6	55.8	54.9	54.1	53.2	52.4
51	59.2	58.3	57.4	56.5	55.6	54.8	53.9	53.1	52.2
52	59.1	58.2	57.3	56.4	55.5	54.7	53.8	52.9	52.1
53	59.0	58.1	57.2	56.3	55.4	54.6	53.7	52.8	52.0
54	59.0	58.0	57.1	56.2	55.3	54.5	53.6	52.7	51.8
55	58.9	58.0	57.1	56.2	55.3	54.4	53.5	52.6	51.7
56	58.8	57.9	57.0	56.1	55.2	54.3	53.4	52.5	51.6
57	58.8	57.9	56.9	56.0	55.1	54.2	53.3	52.4	51.5
58	58.7	57.8	56.9	56.0	55.0	54.1	53.2	52.3	51.4
59	58.7	57.8	56.8	55.9	55.0	54.1	53.2	52.2	51.3
60	58.7	57.7	56.8	55.9	54.9	54.0	53.1	52.2	51.3
61	58.6	57.7	56.7	55.8	54.9	54.0	53.0	52.1	51.2
62	58.6	57.6	56.7	55.8	54.8	53.9	53.0	52.1	51.1
63	58.6	57.6	56.7	55.7	54.8	53.9	52.9	52.0	51.1
64	58.5	57.6	56.6	55.7	54.8	53.8	52.9	52.0	51.0
65	58.5	57.5	56.6	55.7	54.7	53.8	52.8	51.9	51.0

66	58.5	57.5	56.6	55.6	54.7	53.7	52.8	51.9	50.9
67	58.5	57.5	56.5	55.6	54.7	53.7	52.8	51.8	50.9
68	58.4	57.5	56.5	55.6	54.6	53.7	52.7	51.8	50.9
69	58.4	57.5	56.5	55.6	54.6	53.7	52.7	51.8	50.8
70	58.4	57.4	56.5	55.5	54.6	53.6	52.7	51.7	50.8
71	58.4	57.4	56.5	55.5	54.6	53.6	52.7	51.7	50.8
72	58.4	57.4	56.5	55.5	54.5	53.6	52.6	51.7	50.8
73	58.4	57.4	56.4	55.5	54.5	53.6	52.6	51.7	50.7
74	58.3	57.4	56.4	55.5	54.5	53.6	52.6	51.7	50.7
75	58.3	57.4	56.4	55.5	54.5	53.5	52.6	51.6	50.7
76	58.3	57.4	56.4	55.4	54.5	53.5	52.6	51.6	50.7
77	58.3	57.3	56.4	55.4	54.5	53.5	52.6	51.6	50.7
78	58.3	57.3	56.4	55.4	54.5	53.5	52.6	51.6	50.6
79	58.3	57.3	56.4	55.4	54.5	53.5	52.5	51.6	50.6
80	58.3	57.3	56.4	55.4	54.4	53.5	52.5	51.6	50.6
81	58.3	57.3	56.4	55.4	54.4	53.5	52.5	51.6	50.6
82	58.3	57.3	56.3	55.4	54.4	53.5	52.5	51.6	50.6
83	58.3	57.3	56.3	55.4	54.4	53.5	52.5	51.6	50.6
84	58.3	57.3	56.3	55.4	54.4	53.5	52.5	51.5	50.6
85	58.3	57.3	56.3	55.4	54.4	53.5	52.5	51.5	50.6
86	58.2	57.3	56.3	55.4	54.4	53.5	52.5	51.5	50.6
87	58.2	57.3	56.3	55.4	54.4	53.4	52.5	51.5	50.6
88	58.2	57.3	56.3	55.4	54.4	53.4	52.5	51.5	50.6
89	58.2	57.3	56.3	55.4	54.4	53.4	52.5	51.5	50.6
90	58.2	57.3	56.3	55.4	54.4	53.4	52.5	51.5	50.6
91	58.2	57.3	56.3	55.3	54.4	53.4	52.5	51.5	50.6

92	58.2	57.3	56.3	55.3	54.4	53.4	52.5	51.5	50.6
93	58.2	57.3	56.3	55.3	54.4	53.4	52.5	51.5	50.6
94	58.2	57.3	56.3	55.3	54.4	53.4	52.5	51.5	50.6
95	58.2	57.3	56.3	55.3	54.4	53.4	52.5	51.5	50.6
96	58.2	57.3	56.3	55.3	54.4	53.4	52.5	51.5	50.6
97	58.2	57.3	56.3	55.3	54.4	53.4	52.5	51.5	50.6
98	58.2	57.3	56.3	55.3	54.4	53.4	52.5	51.5	50.6
99	58.2	57.3	56.3	55.3	54.4	53.4	52.5	51.5	50.6
100	58.2	57.3	56.3	55.3	54.4	53.4	52.5	51.5	50.6
101	58.2	57.3	56.3	55.3	54.4	53.4	52.5	51.5	50.6
102	58.2	57.3	56.3	55.3	54.4	53.4	52.5	51.5	50.6
103	58.2	57.3	56.3	55.3	54.4	53.4	52.5	51.5	50.5
104	58.2	57.3	56.3	55.3	54.4	53.4	52.5	51.5	50.5
105	58.2	57.3	56.3	55.3	54.4	53.4	52.5	51.5	50.5
106	58.2	57.3	56.3	55.3	54.4	53.4	52.5	51.5	50.5
107	58.2	57.3	56.3	55.3	54.4	53.4	52.5	51.5	50.5
108	58.2	57.3	56.3	55.3	54.4	53.4	52.5	51.5	50.5
109	58.2	57.3	56.3	55.3	54.4	53.4	52.5	51.5	50.5
110	58.2	57.3	56.3	55.3	54.4	53.4	52.5	51.5	50.5
111	58.2	57.3	56.3	55.3	54.4	53.4	52.5	51.5	50.5
112	58.2	57.3	56.3	55.3	54.4	53.4	52.5	51.5	50.5
113	58.2	57.3	56.3	55.3	54.4	53.4	52.5	51.5	50.5
114	58.2	57.3	56.3	55.3	54.4	53.4	52.5	51.5	50.5
115	58.2	57.3	56.3	55.3	54.4	53.4	52.5	51.5	50.5
116	58.2	57.3	56.3	55.3	54.4	53.4	52.5	51.5	50.5
117	58.2	57.3	56.3	55.3	54.4	53.4	52.5	51.5	50.5

118	58.2	57.3	56.3	55.3	54.4	53.4	52.5	51.5	50.5
119	58.2	57.3	56.3	55.3	54.4	53.4	52.5	51.5	50.5
120+	58.2	57.3	56.3	55.3	54.4	53.4	52.5	51.5	50.5
<b>Ages</b>	<b>36</b>	<b>37</b>	<b>38</b>	<b>39</b>	<b>40</b>	<b>41</b>	<b>42</b>	<b>43</b>	<b>44</b>
0	85.2	85.2	85.2	85.1	85.1	85.1	85.0	85.0	85.0
1	84.3	84.3	84.3	84.2	84.2	84.2	84.1	84.1	84.1
2	83.4	83.3	83.3	83.3	83.2	83.2	83.2	83.1	83.1
3	82.4	82.4	82.3	82.3	82.3	82.2	82.2	82.2	82.2
4	81.5	81.4	81.4	81.4	81.3	81.3	81.3	81.2	81.2
5	80.5	80.5	80.4	80.4	80.4	80.3	80.3	80.3	80.2
6	79.6	79.5	79.5	79.5	79.4	79.4	79.3	79.3	79.3
7	78.7	78.6	78.6	78.5	78.5	78.4	78.4	78.3	78.3
8	77.7	77.7	77.6	77.6	77.5	77.5	77.4	77.4	77.3
9	76.8	76.7	76.7	76.6	76.6	76.5	76.5	76.4	76.4
10	75.9	75.8	75.7	75.7	75.6	75.6	75.5	75.5	75.4
11	75.0	74.9	74.8	74.7	74.7	74.6	74.6	74.5	74.5
12	74.0	74.0	73.9	73.8	73.7	73.7	73.6	73.6	73.5
13	73.1	73.1	73.0	72.9	72.8	72.8	72.7	72.6	72.6
14	72.2	72.1	72.1	72.0	71.9	71.8	71.8	71.7	71.6
15	71.4	71.3	71.2	71.1	71.0	70.9	70.8	70.8	70.7
16	70.5	70.4	70.3	70.2	70.1	70.0	69.9	69.8	69.8
17	69.6	69.5	69.4	69.3	69.2	69.1	69.0	68.9	68.8
18	68.7	68.6	68.5	68.4	68.3	68.2	68.1	68.0	67.9
19	67.9	67.7	67.6	67.5	67.4	67.3	67.2	67.1	67.0
20	67.1	66.9	66.8	66.6	66.5	66.4	66.3	66.2	66.1
21	66.2	66.1	65.9	65.8	65.6	65.5	65.4	65.3	65.2

22	65.4	65.2	65.1	64.9	64.8	64.6	64.5	64.4	64.3
23	64.6	64.4	64.2	64.1	63.9	63.8	63.6	63.5	63.4
24	63.8	63.6	63.4	63.3	63.1	62.9	62.8	62.7	62.5
25	63.1	62.8	62.6	62.4	62.3	62.1	61.9	61.8	61.7
26	62.3	62.1	61.9	61.6	61.5	61.3	61.1	61.0	60.8
27	61.6	61.3	61.1	60.9	60.7	60.5	60.3	60.1	60.0
28	60.9	60.6	60.3	60.1	59.9	59.7	59.5	59.3	59.1
29	60.2	59.9	59.6	59.4	59.1	58.9	58.7	58.5	58.3
30	59.5	59.2	58.9	58.6	58.4	58.1	57.9	57.7	57.5
31	58.9	58.6	58.2	57.9	57.6	57.4	57.1	56.9	56.7
32	58.3	57.9	57.6	57.2	56.9	56.7	56.4	56.2	55.9
33	57.7	57.3	56.9	56.6	56.3	56.0	55.7	55.4	55.2
34	57.2	56.7	56.3	55.9	55.6	55.3	55.0	54.7	54.4
35	56.6	56.2	55.7	55.3	55.0	54.6	54.3	54.0	53.7
36	56.1	55.6	55.2	54.7	54.3	54.0	53.6	53.3	53.0
37	55.6	55.1	54.6	54.2	53.8	53.4	53.0	52.6	52.3
38	55.2	54.6	54.1	53.6	53.2	52.8	52.4	52.0	51.6
39	54.7	54.2	53.6	53.1	52.7	52.2	51.8	51.4	51.0
40	54.3	53.8	53.2	52.7	52.2	51.7	51.2	50.8	50.4
41	54.0	53.4	52.8	52.2	51.7	51.2	50.7	50.2	49.8
42	53.6	53.0	52.4	51.8	51.2	50.7	50.2	49.7	49.2
43	53.3	52.6	52.0	51.4	50.8	50.2	49.7	49.2	48.7
44	53.0	52.3	51.6	51.0	50.4	49.8	49.2	48.7	48.2
45	52.7	52.0	51.3	50.7	50.0	49.4	48.8	48.3	47.7
46	52.4	51.7	51.0	50.3	49.7	49.0	48.4	47.8	47.3
47	52.2	51.5	50.7	50.0	49.3	48.7	48.0	47.4	46.8

48	52.0	51.2	50.5	49.7	49.0	48.4	47.7	47.1	46.4
49	51.8	51.0	50.2	49.5	48.8	48.1	47.4	46.7	46.1
50	51.6	50.8	50.0	49.2	48.5	47.8	47.1	46.4	45.7
51	51.4	50.6	49.8	49.0	48.3	47.5	46.8	46.1	45.4
52	51.3	50.4	49.6	48.8	48.0	47.3	46.5	45.8	45.1
53	51.1	50.3	49.5	48.6	47.8	47.1	46.3	45.6	44.8
54	51.0	50.1	49.3	48.5	47.7	46.9	46.1	45.3	44.6
55	50.9	50.0	49.1	48.3	47.5	46.7	45.9	45.1	44.3
56	50.7	49.9	49.0	48.2	47.3	46.5	45.7	44.9	44.1
57	50.6	49.8	48.9	48.0	47.2	46.3	45.5	44.7	43.9
58	50.5	49.7	48.8	47.9	47.1	46.2	45.4	44.5	43.7
59	50.5	49.6	48.7	47.8	46.9	46.1	45.2	44.4	43.6
60	50.4	49.5	48.6	47.7	46.8	46.0	45.1	44.3	43.4
61	50.3	49.4	48.5	47.6	46.7	45.8	45.0	44.1	43.3
62	50.2	49.3	48.4	47.5	46.6	45.7	44.9	44.0	43.1
63	50.2	49.3	48.3	47.4	46.5	45.7	44.8	43.9	43.0
64	50.1	49.2	48.3	47.4	46.5	45.6	44.7	43.8	42.9
65	50.1	49.1	48.2	47.3	46.4	45.5	44.6	43.7	42.8
66	50.0	49.1	48.2	47.2	46.3	45.4	44.5	43.6	42.7
67	50.0	49.0	48.1	47.2	46.3	45.4	44.4	43.5	42.6
68	49.9	49.0	48.1	47.1	46.2	45.3	44.4	43.5	42.6
69	49.9	49.0	48.0	47.1	46.2	45.2	44.3	43.4	42.5
70	49.9	48.9	48.0	47.0	46.1	45.2	44.3	43.3	42.4
71	49.8	48.9	47.9	47.0	46.1	45.1	44.2	43.3	42.4
72	49.8	48.9	47.9	47.0	46.0	45.1	44.2	43.2	42.3
73	49.8	48.8	47.9	46.9	46.0	45.1	44.1	43.2	42.3



74	49.8	48.8	47.9	46.9	46.0	45.0	44.1	43.2	42.2
75	49.7	48.8	47.8	46.9	45.9	45.0	44.1	43.1	42.2
76	49.7	48.8	47.8	46.9	45.9	45.0	44.0	43.1	42.2
77	49.7	48.8	47.8	46.9	45.9	45.0	44.0	43.1	42.1
78	49.7	48.7	47.8	46.8	45.9	44.9	44.0	43.0	42.1
79	49.7	48.7	47.8	46.8	45.9	44.9	44.0	43.0	42.1
80	49.7	48.7	47.8	46.8	45.9	44.9	43.9	43.0	42.1
81	49.7	48.7	47.7	46.8	45.8	44.9	43.9	43.0	42.0
82	49.7	48.7	47.7	46.8	45.8	44.9	43.9	43.0	42.0
83	49.6	48.7	47.7	46.8	45.8	44.9	43.9	43.0	42.0
84	49.6	48.7	47.7	46.8	45.8	44.9	43.9	42.9	42.0
85	49.6	48.7	47.7	46.8	45.8	44.8	43.9	42.9	42.0
86	49.6	48.7	47.7	46.7	45.8	44.8	43.9	42.9	42.0
87	49.6	48.7	47.7	46.7	45.8	44.8	43.9	42.9	42.0
88	49.6	48.7	47.7	46.7	45.8	44.8	43.9	42.9	42.0
89	49.6	48.7	47.7	46.7	45.8	44.8	43.9	42.9	41.9
90	49.6	48.6	47.7	46.7	45.8	44.8	43.9	42.9	41.9
91	49.6	48.6	47.7	46.7	45.8	44.8	43.9	42.9	41.9
92	49.6	48.6	47.7	46.7	45.8	44.8	43.8	42.9	41.9
93	49.6	48.6	47.7	46.7	45.8	44.8	43.8	42.9	41.9
94	49.6	48.6	47.7	46.7	45.8	44.8	43.8	42.9	41.9
95	49.6	48.6	47.7	46.7	45.8	44.8	43.8	42.9	41.9
96	49.6	48.6	47.7	46.7	45.8	44.8	43.8	42.9	41.9
97	49.6	48.6	47.7	46.7	45.8	44.8	43.8	42.9	41.9
98	49.6	48.6	47.7	46.7	45.8	44.8	43.8	42.9	41.9
99	49.6	48.6	47.7	46.7	45.8	44.8	43.8	42.9	41.9

100	49.6	48.6	47.7	46.7	45.8	44.8	43.8	42.9	41.9
101	49.6	48.6	47.7	46.7	45.8	44.8	43.8	42.9	41.9
102	49.6	48.6	47.7	46.7	45.8	44.8	43.8	42.9	41.9
103	49.6	48.6	47.7	46.7	45.8	44.8	43.8	42.9	41.9
104	49.6	48.6	47.7	46.7	45.8	44.8	43.8	42.9	41.9
105	49.6	48.6	47.7	46.7	45.7	44.8	43.8	42.9	41.9
106	49.6	48.6	47.7	46.7	45.7	44.8	43.8	42.9	41.9
107	49.6	48.6	47.7	46.7	45.7	44.8	43.8	42.9	41.9
108	49.6	48.6	47.7	46.7	45.7	44.8	43.8	42.9	41.9
109	49.6	48.6	47.7	46.7	45.7	44.8	43.8	42.9	41.9
110	49.6	48.6	47.7	46.7	45.7	44.8	43.8	42.9	41.9
111	49.6	48.6	47.7	46.7	45.7	44.8	43.8	42.9	41.9
112	49.6	48.6	47.7	46.7	45.7	44.8	43.8	42.9	41.9
113	49.6	48.6	47.7	46.7	45.7	44.8	43.8	42.9	41.9
114	49.6	48.6	47.7	46.7	45.7	44.8	43.8	42.9	41.9
115	49.6	48.6	47.7	46.7	45.7	44.8	43.8	42.9	41.9
116	49.6	48.6	47.7	46.7	45.7	44.8	43.8	42.9	41.9
117	49.6	48.6	47.7	46.7	45.7	44.8	43.8	42.9	41.9
118	49.6	48.6	47.7	46.7	45.7	44.8	43.8	42.9	41.9
119	49.6	48.6	47.7	46.7	45.7	44.8	43.8	42.9	41.9
120+	49.6	48.6	47.7	46.7	45.7	44.8	43.8	42.9	41.9
<b>Ages</b>	<b>45</b>	<b>46</b>	<b>47</b>	<b>48</b>	<b>49</b>	<b>50</b>	<b>51</b>	<b>52</b>	<b>53</b>
0	85.0	84.9	84.9	84.9	84.9	84.9	84.8	84.8	84.8
1	84.1	84.0	84.0	84.0	84.0	84.0	84.0	83.9	83.9
2	83.1	83.1	83.1	83.0	83.0	83.0	83.0	83.0	83.0
3	82.1	82.1	82.1	82.1	82.1	82.0	82.0	82.0	82.0

4	81.2	81.1	81.1	81.1	81.1	81.1	81.1	81.0	81.0	81.0
5	80.2	80.2	80.2	80.1	80.1	80.1	80.1	80.1	80.1	80.0
6	79.2	79.2	79.2	79.2	79.1	79.1	79.1	79.1	79.1	79.1
7	78.3	78.2	78.2	78.2	78.2	78.1	78.1	78.1	78.1	78.1
8	77.3	77.3	77.3	77.2	77.2	77.2	77.2	77.1	77.1	77.1
9	76.4	76.3	76.3	76.3	76.2	76.2	76.2	76.2	76.2	76.1
10	75.4	75.4	75.3	75.3	75.3	75.2	75.2	75.2	75.2	75.2
11	74.4	74.4	74.4	74.3	74.3	74.3	74.2	74.2	74.2	74.2
12	73.5	73.4	73.4	73.4	73.3	73.3	73.3	73.2	73.2	73.2
13	72.5	72.5	72.4	72.4	72.4	72.3	72.3	72.3	72.3	72.3
14	71.6	71.5	71.5	71.5	71.4	71.4	71.3	71.3	71.3	71.3
15	70.6	70.6	70.5	70.5	70.5	70.4	70.4	70.4	70.4	70.3
16	69.7	69.7	69.6	69.6	69.5	69.5	69.4	69.4	69.4	69.4
17	68.8	68.7	68.7	68.6	68.6	68.5	68.5	68.4	68.4	68.4
18	67.9	67.8	67.7	67.7	67.6	67.6	67.5	67.5	67.5	67.4
19	66.9	66.9	66.8	66.7	66.7	66.6	66.6	66.5	66.5	66.5
20	66.0	65.9	65.9	65.8	65.7	65.7	65.6	65.6	65.6	65.5
21	65.1	65.0	65.0	64.9	64.8	64.8	64.7	64.7	64.7	64.6
22	64.2	64.1	64.0	64.0	63.9	63.8	63.8	63.7	63.7	63.7
23	63.3	63.2	63.1	63.0	63.0	62.9	62.8	62.8	62.8	62.7
24	62.4	62.3	62.2	62.1	62.1	62.0	61.9	61.9	61.9	61.8
25	61.5	61.4	61.3	61.2	61.2	61.1	61.0	60.9	60.9	60.9
26	60.7	60.6	60.5	60.3	60.3	60.2	60.1	60.0	60.0	59.9
27	59.8	59.7	59.6	59.5	59.4	59.3	59.2	59.1	59.1	59.0
28	59.0	58.8	58.7	58.6	58.5	58.4	58.3	58.2	58.2	58.1
29	58.1	58.0	57.9	57.7	57.6	57.5	57.4	57.3	57.3	57.2

30	57.3	57.2	57.0	56.9	56.7	56.6	56.5	56.4	56.3
31	56.5	56.3	56.2	56.0	55.9	55.8	55.6	55.5	55.4
32	55.7	55.5	55.4	55.2	55.0	54.9	54.8	54.7	54.6
33	54.9	54.7	54.5	54.4	54.2	54.1	53.9	53.8	53.7
34	54.2	54.0	53.7	53.6	53.4	53.2	53.1	52.9	52.8
35	53.4	53.2	53.0	52.8	52.6	52.4	52.2	52.1	52.0
36	52.7	52.4	52.2	52.0	51.8	51.6	51.4	51.3	51.1
37	52.0	51.7	51.5	51.2	51.0	50.8	50.6	50.4	50.3
38	51.3	51.0	50.7	50.5	50.2	50.0	49.8	49.6	49.5
39	50.7	50.3	50.0	49.7	49.5	49.2	49.0	48.8	48.6
40	50.0	49.7	49.3	49.0	48.8	48.5	48.3	48.0	47.8
41	49.4	49.0	48.7	48.4	48.1	47.8	47.5	47.3	47.1
42	48.8	48.4	48.0	47.7	47.4	47.1	46.8	46.5	46.3
43	48.3	47.8	47.4	47.1	46.7	46.4	46.1	45.8	45.6
44	47.7	47.3	46.8	46.4	46.1	45.7	45.4	45.1	44.8
45	47.2	46.7	46.3	45.9	45.5	45.1	44.7	44.4	44.1
46	46.7	46.2	45.7	45.3	44.9	44.5	44.1	43.8	43.4
47	46.3	45.7	45.2	44.8	44.3	43.9	43.5	43.1	42.8
48	45.9	45.3	44.8	44.3	43.8	43.3	42.9	42.5	42.1
49	45.5	44.9	44.3	43.8	43.3	42.8	42.3	41.9	41.5
50	45.1	44.5	43.9	43.3	42.8	42.3	41.8	41.4	40.9
51	44.7	44.1	43.5	42.9	42.3	41.8	41.3	40.8	40.4
52	44.4	43.8	43.1	42.5	41.9	41.4	40.8	40.3	39.9
53	44.1	43.4	42.8	42.1	41.5	40.9	40.4	39.9	39.4
54	43.8	43.1	42.5	41.8	41.2	40.6	40.0	39.4	38.9
55	43.6	42.9	42.2	41.5	40.8	40.2	39.6	39.0	38.4

56	43.4	42.6	41.9	41.2	40.5	39.8	39.2	38.6	38.0
57	43.1	42.4	41.6	40.9	40.2	39.5	38.9	38.2	37.6
58	42.9	42.2	41.4	40.7	39.9	39.2	38.6	37.9	37.3
59	42.8	42.0	41.2	40.4	39.7	39.0	38.3	37.6	36.9
60	42.6	41.8	41.0	40.2	39.5	38.7	38.0	37.3	36.6
61	42.4	41.6	40.8	40.0	39.2	38.5	37.7	37.0	36.3
62	42.3	41.5	40.6	39.8	39.0	38.3	37.5	36.8	36.1
63	42.2	41.3	40.5	39.7	38.9	38.1	37.3	36.6	35.8
64	42.1	41.2	40.4	39.5	38.7	37.9	37.1	36.3	35.6
65	41.9	41.1	40.2	39.4	38.6	37.7	36.9	36.2	35.4
66	41.8	41.0	40.1	39.3	38.4	37.6	36.8	36.0	35.2
67	41.8	40.9	40.0	39.1	38.3	37.5	36.6	35.8	35.0
68	41.7	40.8	39.9	39.0	38.2	37.3	36.5	35.7	34.9
69	41.6	40.7	39.8	38.9	38.1	37.2	36.4	35.5	34.7
70	41.5	40.6	39.7	38.8	38.0	37.1	36.2	35.4	34.6
71	41.5	40.6	39.7	38.8	37.9	37.0	36.1	35.3	34.5
72	41.4	40.5	39.6	38.7	37.8	36.9	36.0	35.2	34.3
73	41.4	40.4	39.5	38.6	37.7	36.8	36.0	35.1	34.2
74	41.3	40.4	39.5	38.6	37.7	36.8	35.9	35.0	34.1
75	41.3	40.3	39.4	38.5	37.6	36.7	35.8	34.9	34.1
76	41.2	40.3	39.4	38.5	37.5	36.6	35.7	34.9	34.0
77	41.2	40.3	39.3	38.4	37.5	36.6	35.7	34.8	33.9
78	41.2	40.2	39.3	38.4	37.5	36.5	35.6	34.7	33.9
79	41.1	40.2	39.3	38.3	37.4	36.5	35.6	34.7	33.8
80	41.1	40.2	39.2	38.3	37.4	36.5	35.5	34.6	33.7
81	41.1	40.1	39.2	38.3	37.3	36.4	35.5	34.6	33.7

82	41.1	40.1	39.2	38.3	37.3	36.4	35.5	34.6	33.7
83	41.1	40.1	39.2	38.2	37.3	36.4	35.4	34.5	33.6
84	41.0	40.1	39.2	38.2	37.3	36.3	35.4	34.5	33.6
85	41.0	40.1	39.1	38.2	37.3	36.3	35.4	34.5	33.6
86	41.0	40.1	39.1	38.2	37.2	36.3	35.4	34.5	33.5
87	41.0	40.1	39.1	38.2	37.2	36.3	35.4	34.4	33.5
88	41.0	40.0	39.1	38.2	37.2	36.3	35.3	34.4	33.5
89	41.0	40.0	39.1	38.1	37.2	36.3	35.3	34.4	33.5
90	41.0	40.0	39.1	38.1	37.2	36.3	35.3	34.4	33.5
91	41.0	40.0	39.1	38.1	37.2	36.2	35.3	34.4	33.5
92	41.0	40.0	39.1	38.1	37.2	36.2	35.3	34.4	33.5
93	41.0	40.0	39.1	38.1	37.2	36.2	35.3	34.4	33.4
94	41.0	40.0	39.1	38.1	37.2	36.2	35.3	34.4	33.4
95	41.0	40.0	39.1	38.1	37.2	36.2	35.3	34.4	33.4
96	41.0	40.0	39.1	38.1	37.2	36.2	35.3	34.3	33.4
97	41.0	40.0	39.1	38.1	37.2	36.2	35.3	34.3	33.4
98	41.0	40.0	39.1	38.1	37.2	36.2	35.3	34.3	33.4
99	41.0	40.0	39.1	38.1	37.2	36.2	35.3	34.3	33.4
100	41.0	40.0	39.0	38.1	37.1	36.2	35.3	34.3	33.4
101	41.0	40.0	39.0	38.1	37.1	36.2	35.3	34.3	33.4
102	41.0	40.0	39.0	38.1	37.1	36.2	35.3	34.3	33.4
103	41.0	40.0	39.0	38.1	37.1	36.2	35.3	34.3	33.4
104	41.0	40.0	39.0	38.1	37.1	36.2	35.3	34.3	33.4
105	41.0	40.0	39.0	38.1	37.1	36.2	35.3	34.3	33.4
106	41.0	40.0	39.0	38.1	37.1	36.2	35.3	34.3	33.4
107	41.0	40.0	39.0	38.1	37.1	36.2	35.3	34.3	33.4



12	73.2	73.2	73.2	73.1	73.1	73.1	73.1	73.1	73.1
13	72.2	72.2	72.2	72.2	72.1	72.1	72.1	72.1	72.1
14	71.3	71.2	71.2	71.2	71.2	71.2	71.1	71.1	71.1
15	70.3	70.3	70.2	70.2	70.2	70.2	70.2	70.1	70.1
16	69.3	69.3	69.3	69.3	69.2	69.2	69.2	69.2	69.2
17	68.4	68.3	68.3	68.3	68.3	68.2	68.2	68.2	68.2
18	67.4	67.4	67.4	67.3	67.3	67.3	67.3	67.2	67.2
19	66.5	66.4	66.4	66.4	66.3	66.3	66.3	66.3	66.2
20	65.5	65.5	65.4	65.4	65.4	65.4	65.3	65.3	65.3
21	64.6	64.5	64.5	64.5	64.4	64.4	64.4	64.3	64.3
22	63.6	63.6	63.5	63.5	63.5	63.4	63.4	63.4	63.4
23	62.7	62.6	62.6	62.5	62.5	62.5	62.4	62.4	62.4
24	61.7	61.7	61.6	61.6	61.6	61.5	61.5	61.5	61.4
25	60.8	60.8	60.7	60.7	60.6	60.6	60.5	60.5	60.5
26	59.9	59.8	59.8	59.7	59.7	59.6	59.6	59.6	59.5
27	59.0	58.9	58.8	58.8	58.7	58.7	58.7	58.6	58.6
28	58.0	58.0	57.9	57.9	57.8	57.8	57.7	57.7	57.6
29	57.1	57.1	57.0	56.9	56.9	56.8	56.8	56.7	56.7
30	56.2	56.2	56.1	56.0	56.0	55.9	55.9	55.8	55.8
31	55.3	55.3	55.2	55.1	55.0	55.0	54.9	54.9	54.8
32	54.5	54.4	54.3	54.2	54.1	54.1	54.0	54.0	53.9
33	53.6	53.5	53.4	53.3	53.2	53.2	53.1	53.0	53.0
34	52.7	52.6	52.5	52.4	52.3	52.2	52.2	52.1	52.1
35	51.8	51.7	51.6	51.5	51.4	51.3	51.3	51.2	51.1
36	51.0	50.9	50.7	50.6	50.5	50.5	50.4	50.3	50.2
37	50.1	50.0	49.9	49.8	49.7	49.6	49.5	49.4	49.3



38	49.3	49.1	49.0	48.9	48.8	48.7	48.6	48.5	48.4
39	48.5	48.3	48.2	48.0	47.9	47.8	47.7	47.6	47.5
40	47.7	47.5	47.3	47.2	47.1	46.9	46.8	46.7	46.6
41	46.9	46.7	46.5	46.3	46.2	46.1	46.0	45.8	45.7
42	46.1	45.9	45.7	45.5	45.4	45.2	45.1	45.0	44.9
43	45.3	45.1	44.9	44.7	44.5	44.4	44.3	44.1	44.0
44	44.6	44.3	44.1	43.9	43.7	43.6	43.4	43.3	43.1
45	43.8	43.6	43.4	43.1	42.9	42.8	42.6	42.4	42.3
46	43.1	42.9	42.6	42.4	42.2	42.0	41.8	41.6	41.5
47	42.5	42.2	41.9	41.6	41.4	41.2	41.0	40.8	40.6
48	41.8	41.5	41.2	40.9	40.7	40.4	40.2	40.0	39.8
49	41.2	40.8	40.5	40.2	39.9	39.7	39.5	39.2	39.0
50	40.6	40.2	39.8	39.5	39.2	39.0	38.7	38.5	38.3
51	40.0	39.6	39.2	38.9	38.6	38.3	38.0	37.7	37.5
52	39.4	39.0	38.6	38.2	37.9	37.6	37.3	37.0	36.8
53	38.9	38.4	38.0	37.6	37.3	36.9	36.6	36.3	36.1
54	38.4	37.9	37.5	37.1	36.7	36.3	36.0	35.7	35.4
55	37.9	37.4	36.9	36.5	36.1	35.7	35.3	35.0	34.7
56	37.5	36.9	36.5	36.0	35.5	35.1	34.8	34.4	34.1
57	37.1	36.5	36.0	35.5	35.0	34.6	34.2	33.8	33.4
58	36.7	36.1	35.5	35.0	34.5	34.1	33.6	33.2	32.8
59	36.3	35.7	35.1	34.6	34.1	33.6	33.1	32.7	32.3
60	36.0	35.3	34.8	34.2	33.6	33.1	32.6	32.2	31.7
61	35.7	35.0	34.4	33.8	33.2	32.7	32.2	31.7	31.2
62	35.4	34.7	34.1	33.4	32.8	32.3	31.7	31.2	30.8
63	35.1	34.4	33.8	33.1	32.5	31.9	31.3	30.8	30.3

64	34.9	34.2	33.5	32.8	32.2	31.5	31.0	30.4	29.9
65	34.6	33.9	33.2	32.5	31.9	31.2	30.6	30.0	29.5
66	34.4	33.7	33.0	32.3	31.6	30.9	30.3	29.7	29.1
67	34.2	33.5	32.7	32.0	31.3	30.6	30.0	29.4	28.7
68	34.1	33.3	32.5	31.8	31.1	30.4	29.7	29.1	28.4
69	33.9	33.1	32.3	31.6	30.9	30.1	29.4	28.8	28.1
70	33.8	33.0	32.2	31.4	30.7	29.9	29.2	28.5	27.9
71	33.6	32.8	32.0	31.2	30.5	29.7	29.0	28.3	27.6
72	33.5	32.7	31.9	31.1	30.3	29.5	28.8	28.1	27.4
73	33.4	32.6	31.7	30.9	30.1	29.4	28.6	27.9	27.2
74	33.3	32.4	31.6	30.8	30.0	29.2	28.4	27.7	27.0
75	33.2	32.4	31.5	30.7	29.9	29.1	28.3	27.5	26.8
76	33.1	32.3	31.4	30.6	29.8	29.0	28.2	27.4	26.6
77	33.0	32.2	31.3	30.5	29.7	28.8	28.0	27.3	26.5
78	33.0	32.1	31.2	30.4	29.6	28.7	27.9	27.1	26.4
79	32.9	32.0	31.2	30.3	29.5	28.7	27.8	27.0	26.2
80	32.9	32.0	31.1	30.3	29.4	28.6	27.8	26.9	26.1
81	32.8	31.9	31.1	30.2	29.3	28.5	27.7	26.9	26.0
82	32.8	31.9	31.0	30.1	29.3	28.4	27.6	26.8	26.0
83	32.7	31.8	31.0	30.1	29.2	28.4	27.5	26.7	25.9
84	32.7	31.8	30.9	30.0	29.2	28.3	27.5	26.7	25.8
85	32.7	31.8	30.9	30.0	29.1	28.3	27.4	26.6	25.8
86	32.6	31.7	30.9	30.0	29.1	28.2	27.4	26.6	25.7
87	32.6	31.7	30.8	29.9	29.1	28.2	27.4	26.5	25.7
88	32.6	31.7	30.8	29.9	29.0	28.2	27.3	26.5	25.6
89	32.6	31.7	30.8	29.9	29.0	28.2	27.3	26.4	25.6

90	32.6	31.7	30.8	29.9	29.0	28.1	27.3	26.4	25.6
91	32.5	31.6	30.7	29.9	29.0	28.1	27.3	26.4	25.6
92	32.5	31.6	30.7	29.8	29.0	28.1	27.2	26.4	25.5
93	32.5	31.6	30.7	29.8	29.0	28.1	27.2	26.4	25.5
94	32.5	31.6	30.7	29.8	28.9	28.1	27.2	26.3	25.5
95	32.5	31.6	30.7	29.8	28.9	28.1	27.2	26.3	25.5
96	32.5	31.6	30.7	29.8	28.9	28.0	27.2	26.3	25.5
97	32.5	31.6	30.7	29.8	28.9	28.0	27.2	26.3	25.5
98	32.5	31.6	30.7	29.8	28.9	28.0	27.2	26.3	25.5
99	32.5	31.6	30.7	29.8	28.9	28.0	27.2	26.3	25.4
100	32.5	31.6	30.7	29.8	28.9	28.0	27.1	26.3	25.4
101	32.5	31.6	30.7	29.8	28.9	28.0	27.1	26.3	25.4
102	32.5	31.6	30.7	29.8	28.9	28.0	27.1	26.3	25.4
103	32.5	31.6	30.7	29.8	28.9	28.0	27.1	26.3	25.4
104	32.5	31.6	30.7	29.8	28.9	28.0	27.1	26.3	25.4
105	32.5	31.6	30.7	29.8	28.9	28.0	27.1	26.3	25.4
106	32.5	31.6	30.7	29.8	28.9	28.0	27.1	26.3	25.4
107	32.5	31.6	30.7	29.8	28.9	28.0	27.1	26.3	25.4
108	32.5	31.6	30.7	29.8	28.9	28.0	27.1	26.3	25.4
109	32.5	31.6	30.7	29.8	28.9	28.0	27.1	26.3	25.4
110	32.5	31.6	30.7	29.8	28.9	28.0	27.1	26.3	25.4
111	32.5	31.6	30.7	29.8	28.9	28.0	27.1	26.3	25.4
112	32.5	31.6	30.7	29.8	28.9	28.0	27.1	26.3	25.4
113	32.5	31.6	30.7	29.8	28.9	28.0	27.1	26.3	25.4
114	32.5	31.6	30.7	29.8	28.9	28.0	27.1	26.3	25.4
115	32.5	31.6	30.7	29.8	28.9	28.0	27.1	26.3	25.4

116	32.5	31.6	30.7	29.8	28.9	28.0	27.1	26.3	25.4
117	32.5	31.6	30.7	29.8	28.9	28.0	27.1	26.3	25.4
118	32.5	31.6	30.7	29.8	28.9	28.0	27.1	26.3	25.4
119	32.5	31.6	30.7	29.8	28.9	28.0	27.1	26.2	25.4
120+	32.5	31.6	30.6	29.8	28.9	28.0	27.1	26.2	25.4
<b>Ages</b>	<b>63</b>	<b>64</b>	<b>65</b>	<b>66</b>	<b>67</b>	<b>68</b>	<b>69</b>	<b>70</b>	<b>71</b>
0	84.7	84.7	84.7	84.7	84.7	84.7	84.7	84.7	84.7
1	83.8	83.8	83.8	83.8	83.8	83.8	83.8	83.8	83.8
2	82.9	82.8	82.8	82.8	82.8	82.8	82.8	82.8	82.8
3	81.9	81.9	81.9	81.9	81.9	81.8	81.8	81.8	81.8
4	80.9	80.9	80.9	80.9	80.9	80.9	80.9	80.9	80.9
5	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9
6	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9
7	78.0	77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9
8	77.0	77.0	77.0	76.9	76.9	76.9	76.9	76.9	76.9
9	76.0	76.0	76.0	76.0	76.0	75.9	75.9	75.9	75.9
10	75.0	75.0	75.0	75.0	75.0	75.0	75.0	74.9	74.9
11	74.0	74.0	74.0	74.0	74.0	74.0	74.0	74.0	74.0
12	73.0	73.0	73.0	73.0	73.0	73.0	73.0	73.0	73.0
13	72.1	72.1	72.0	72.0	72.0	72.0	72.0	72.0	72.0
14	71.1	71.1	71.1	71.1	71.0	71.0	71.0	71.0	71.0
15	70.1	70.1	70.1	70.1	70.1	70.1	70.0	70.0	70.0
16	69.1	69.1	69.1	69.1	69.1	69.1	69.1	69.1	69.0
17	68.2	68.2	68.1	68.1	68.1	68.1	68.1	68.1	68.1
18	67.2	67.2	67.2	67.2	67.1	67.1	67.1	67.1	67.1
19	66.2	66.2	66.2	66.2	66.2	66.2	66.1	66.1	66.1

20	65.3	65.2	65.2	65.2	65.2	65.2	65.2	65.2	65.1
21	64.3	64.3	64.3	64.2	64.2	64.2	64.2	64.2	64.2
22	63.3	63.3	63.3	63.3	63.3	63.2	63.2	63.2	63.2
23	62.4	62.3	62.3	62.3	62.3	62.3	62.3	62.2	62.2
24	61.4	61.4	61.4	61.3	61.3	61.3	61.3	61.3	61.3
25	60.5	60.4	60.4	60.4	60.4	60.3	60.3	60.3	60.3
26	59.5	59.5	59.5	59.4	59.4	59.4	59.4	59.4	59.3
27	58.6	58.5	58.5	58.5	58.5	58.4	58.4	58.4	58.4
28	57.6	57.6	57.5	57.5	57.5	57.5	57.5	57.4	57.4
29	56.7	56.6	56.6	56.6	56.5	56.5	56.5	56.5	56.5
30	55.7	55.7	55.7	55.6	55.6	55.6	55.6	55.5	55.5
31	54.8	54.8	54.7	54.7	54.7	54.6	54.6	54.6	54.6
32	53.9	53.8	53.8	53.7	53.7	53.7	53.7	53.6	53.6
33	52.9	52.9	52.8	52.8	52.8	52.7	52.7	52.7	52.7
34	52.0	52.0	51.9	51.9	51.8	51.8	51.8	51.7	51.7
35	51.1	51.0	51.0	50.9	50.9	50.9	50.8	50.8	50.8
36	50.2	50.1	50.1	50.0	50.0	49.9	49.9	49.9	49.8
37	49.3	49.2	49.1	49.1	49.0	49.0	49.0	48.9	48.9
38	48.3	48.3	48.2	48.2	48.1	48.1	48.0	48.0	47.9
39	47.4	47.4	47.3	47.2	47.2	47.1	47.1	47.0	47.0
40	46.5	46.5	46.4	46.3	46.3	46.2	46.2	46.1	46.1
41	45.7	45.6	45.5	45.4	45.4	45.3	45.2	45.2	45.1
42	44.8	44.7	44.6	44.5	44.4	44.4	44.3	44.3	44.2
43	43.9	43.8	43.7	43.6	43.5	43.5	43.4	43.3	43.3
44	43.0	42.9	42.8	42.7	42.6	42.6	42.5	42.4	42.4
45	42.2	42.1	41.9	41.8	41.8	41.7	41.6	41.5	41.5

46	41.3	41.2	41.1	41.0	40.9	40.8	40.7	40.6	40.6
47	40.5	40.4	40.2	40.1	40.0	39.9	39.8	39.7	39.7
48	39.7	39.5	39.4	39.3	39.1	39.0	38.9	38.8	38.8
49	38.9	38.7	38.6	38.4	38.3	38.2	38.1	38.0	37.9
50	38.1	37.9	37.7	37.6	37.5	37.3	37.2	37.1	37.0
51	37.3	37.1	36.9	36.8	36.6	36.5	36.4	36.2	36.1
52	36.6	36.3	36.2	36.0	35.8	35.7	35.5	35.4	35.3
53	35.8	35.6	35.4	35.2	35.0	34.9	34.7	34.6	34.5
54	35.1	34.9	34.6	34.4	34.2	34.1	33.9	33.8	33.6
55	34.4	34.2	33.9	33.7	33.5	33.3	33.1	33.0	32.8
56	33.8	33.5	33.2	33.0	32.7	32.5	32.3	32.2	32.0
57	33.1	32.8	32.5	32.3	32.0	31.8	31.6	31.4	31.2
58	32.5	32.2	31.9	31.6	31.3	31.1	30.9	30.7	30.5
59	31.9	31.5	31.2	30.9	30.6	30.4	30.1	29.9	29.7
60	31.3	31.0	30.6	30.3	30.0	29.7	29.4	29.2	29.0
61	30.8	30.4	30.0	29.7	29.4	29.1	28.8	28.5	28.3
62	30.3	29.9	29.5	29.1	28.7	28.4	28.1	27.9	27.6
63	29.8	29.4	28.9	28.5	28.2	27.8	27.5	27.2	26.9
64	29.4	28.9	28.4	28.0	27.6	27.2	26.9	26.6	26.3
65	28.9	28.4	28.0	27.5	27.1	26.7	26.3	26.0	25.7
66	28.5	28.0	27.5	27.0	26.6	26.2	25.8	25.4	25.1
67	28.2	27.6	27.1	26.6	26.1	25.7	25.3	24.9	24.5
68	27.8	27.2	26.7	26.2	25.7	25.2	24.8	24.3	24.0
69	27.5	26.9	26.3	25.8	25.3	24.8	24.3	23.9	23.4
70	27.2	26.6	26.0	25.4	24.9	24.3	23.9	23.4	22.9
71	26.9	26.3	25.7	25.1	24.5	24.0	23.4	22.9	22.5

72	26.7	26.0	25.4	24.8	24.2	23.6	23.1	22.5	22.0
73	26.5	25.8	25.1	24.5	23.9	23.3	22.7	22.2	21.6
74	26.2	25.5	24.9	24.2	23.6	23.0	22.4	21.8	21.3
75	26.1	25.3	24.6	24.0	23.3	22.7	22.1	21.5	20.9
76	25.9	25.2	24.4	23.7	23.1	22.4	21.8	21.2	20.6
77	25.7	25.0	24.3	23.5	22.9	22.2	21.5	20.9	20.3
78	25.6	24.8	24.1	23.4	22.7	22.0	21.3	20.6	20.0
79	25.5	24.7	23.9	23.2	22.5	21.8	21.1	20.4	19.8
80	25.3	24.6	23.8	23.1	22.3	21.6	20.9	20.2	19.6
81	25.2	24.5	23.7	22.9	22.2	21.5	20.7	20.0	19.4
82	25.2	24.4	23.6	22.8	22.1	21.3	20.6	19.9	19.2
83	25.1	24.3	23.5	22.7	22.0	21.2	20.5	19.7	19.0
84	25.0	24.2	23.4	22.6	21.9	21.1	20.4	19.6	18.9
85	25.0	24.1	23.3	22.6	21.8	21.0	20.3	19.5	18.8
86	24.9	24.1	23.3	22.5	21.7	20.9	20.2	19.4	18.7
87	24.9	24.0	23.2	22.4	21.6	20.9	20.1	19.3	18.6
88	24.8	24.0	23.2	22.4	21.6	20.8	20.0	19.2	18.5
89	24.8	24.0	23.1	22.3	21.5	20.7	20.0	19.2	18.4
90	24.7	23.9	23.1	22.3	21.5	20.7	19.9	19.1	18.4
91	24.7	23.9	23.1	22.3	21.5	20.7	19.9	19.1	18.3
92	24.7	23.9	23.0	22.2	21.4	20.6	19.8	19.0	18.3
93	24.7	23.8	23.0	22.2	21.4	20.6	19.8	19.0	18.2
94	24.7	23.8	23.0	22.2	21.4	20.6	19.8	19.0	18.2
95	24.6	23.8	23.0	22.2	21.4	20.6	19.7	18.9	18.2
96	24.6	23.8	23.0	22.2	21.3	20.5	19.7	18.9	18.1
97	24.6	23.8	23.0	22.1	21.3	20.5	19.7	18.9	18.1







28	57.4	57.4	57.4	57.4	57.4	57.3	57.3	57.3	57.3
29	56.5	56.4	56.4	56.4	56.4	56.4	56.4	56.4	56.4
30	55.5	55.5	55.5	55.5	55.4	55.4	55.4	55.4	55.4
31	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.4
32	53.6	53.6	53.6	53.5	53.5	53.5	53.5	53.5	53.5
33	52.6	52.6	52.6	52.6	52.6	52.6	52.6	52.5	52.5
34	51.7	51.7	51.7	51.6	51.6	51.6	51.6	51.6	51.6
35	50.8	50.7	50.7	50.7	50.7	50.7	50.6	50.6	50.6
36	49.8	49.8	49.8	49.7	49.7	49.7	49.7	49.7	49.7
37	48.9	48.8	48.8	48.8	48.8	48.8	48.7	48.7	48.7
38	47.9	47.9	47.9	47.8	47.8	47.8	47.8	47.8	47.8
39	47.0	46.9	46.9	46.9	46.9	46.9	46.8	46.8	46.8
40	46.0	46.0	46.0	45.9	45.9	45.9	45.9	45.9	45.9
41	45.1	45.1	45.0	45.0	45.0	45.0	44.9	44.9	44.9
42	44.2	44.1	44.1	44.1	44.0	44.0	44.0	44.0	43.9
43	43.2	43.2	43.2	43.1	43.1	43.1	43.0	43.0	43.0
44	42.3	42.3	42.2	42.2	42.2	42.1	42.1	42.1	42.1
45	41.4	41.4	41.3	41.3	41.2	41.2	41.2	41.1	41.1
46	40.5	40.4	40.4	40.3	40.3	40.3	40.2	40.2	40.2
47	39.6	39.5	39.5	39.4	39.4	39.3	39.3	39.3	39.2
48	38.7	38.6	38.6	38.5	38.5	38.4	38.4	38.3	38.3
49	37.8	37.7	37.7	37.6	37.5	37.5	37.5	37.4	37.4
50	36.9	36.8	36.8	36.7	36.6	36.6	36.5	36.5	36.5
51	36.0	36.0	35.9	35.8	35.7	35.7	35.6	35.6	35.5
52	35.2	35.1	35.0	34.9	34.9	34.8	34.7	34.7	34.6
53	34.3	34.2	34.1	34.1	34.0	33.9	33.9	33.8	33.7

54	33.5	33.4	33.3	33.2	33.1	33.0	33.0	32.9	32.9
55	32.7	32.6	32.4	32.4	32.3	32.2	32.1	32.0	32.0
56	31.9	31.7	31.6	31.5	31.4	31.3	31.2	31.2	31.1
57	31.1	30.9	30.8	30.7	30.6	30.5	30.4	30.3	30.3
58	30.3	30.1	30.0	29.9	29.8	29.7	29.6	29.5	29.4
59	29.5	29.4	29.2	29.1	29.0	28.8	28.7	28.7	28.6
60	28.8	28.6	28.4	28.3	28.2	28.0	27.9	27.8	27.8
61	28.1	27.9	27.7	27.5	27.4	27.3	27.1	27.0	26.9
62	27.4	27.2	27.0	26.8	26.6	26.5	26.4	26.2	26.1
63	26.7	26.5	26.2	26.1	25.9	25.7	25.6	25.5	25.3
64	26.0	25.8	25.5	25.3	25.2	25.0	24.8	24.7	24.6
65	25.4	25.1	24.9	24.6	24.4	24.3	24.1	23.9	23.8
66	24.8	24.5	24.2	24.0	23.7	23.5	23.4	23.2	23.1
67	24.2	23.9	23.6	23.3	23.1	22.9	22.7	22.5	22.3
68	23.6	23.3	23.0	22.7	22.4	22.2	22.0	21.8	21.6
69	23.1	22.7	22.4	22.1	21.8	21.5	21.3	21.1	20.9
70	22.5	22.2	21.8	21.5	21.2	20.9	20.6	20.4	20.2
71	22.0	21.6	21.3	20.9	20.6	20.3	20.0	19.8	19.6
72	21.6	21.1	20.7	20.4	20.0	19.7	19.4	19.2	18.9
73	21.1	20.7	20.3	19.9	19.5	19.1	18.8	18.6	18.3
74	20.7	20.3	19.8	19.4	19.0	18.6	18.3	18.0	17.7
75	20.4	19.9	19.4	18.9	18.5	18.1	17.8	17.4	17.1
76	20.0	19.5	19.0	18.5	18.1	17.7	17.3	16.9	16.6
77	19.7	19.1	18.6	18.1	17.7	17.2	16.8	16.4	16.1
78	19.4	18.8	18.3	17.8	17.3	16.8	16.4	16.0	15.6
79	19.2	18.6	18.0	17.4	16.9	16.4	16.0	15.6	15.2

80	18.9	18.3	17.7	17.1	16.6	16.1	15.6	15.2	14.7
81	18.7	18.1	17.4	16.9	16.3	15.8	15.3	14.8	14.4
82	18.5	17.9	17.2	16.6	16.0	15.5	15.0	14.5	14.0
83	18.3	17.7	17.0	16.4	15.8	15.2	14.7	14.2	13.7
84	18.2	17.5	16.8	16.2	15.6	15.0	14.4	13.9	13.4
85	18.1	17.4	16.7	16.0	15.4	14.8	14.2	13.6	13.1
86	17.9	17.2	16.5	15.9	15.2	14.6	14.0	13.4	12.9
87	17.8	17.1	16.4	15.7	15.1	14.4	13.8	13.2	12.7
88	17.7	17.0	16.3	15.6	14.9	14.3	13.7	13.1	12.5
89	17.7	16.9	16.2	15.5	14.8	14.2	13.5	12.9	12.3
90	17.6	16.9	16.1	15.4	14.7	14.1	13.4	12.8	12.2
91	17.5	16.8	16.1	15.3	14.6	14.0	13.3	12.7	12.1
92	17.5	16.7	16.0	15.3	14.6	13.9	13.2	12.6	11.9
93	17.4	16.7	15.9	15.2	14.5	13.8	13.1	12.5	11.9
94	17.4	16.6	15.9	15.2	14.4	13.7	13.1	12.4	11.8
95	17.4	16.6	15.9	15.1	14.4	13.7	13.0	12.3	11.7
96	17.4	16.6	15.8	15.1	14.3	13.6	12.9	12.3	11.6
97	17.3	16.6	15.8	15.0	14.3	13.6	12.9	12.2	11.6
98	17.3	16.5	15.8	15.0	14.3	13.6	12.9	12.2	11.5
99	17.3	16.5	15.7	15.0	14.3	13.5	12.8	12.2	11.5
100	17.3	16.5	15.7	15.0	14.2	13.5	12.8	12.1	11.5
101	17.3	16.5	15.7	15.0	14.2	13.5	12.8	12.1	11.4
102	17.3	16.5	15.7	14.9	14.2	13.5	12.8	12.1	11.4
103	17.3	16.5	15.7	14.9	14.2	13.5	12.8	12.1	11.4
104	17.2	16.5	15.7	14.9	14.2	13.5	12.7	12.0	11.4
105	17.2	16.5	15.7	14.9	14.2	13.4	12.7	12.0	11.4





36	49.7	49.7	49.6	49.6	49.6	49.6	49.6	49.6	49.6
37	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7
38	47.7	47.7	47.7	47.7	47.7	47.7	47.7	47.7	47.7
39	46.8	46.8	46.8	46.8	46.8	46.7	46.7	46.7	46.7
40	45.8	45.8	45.8	45.8	45.8	45.8	45.8	45.8	45.8
41	44.9	44.9	44.9	44.9	44.8	44.8	44.8	44.8	44.8
42	43.9	43.9	43.9	43.9	43.9	43.9	43.9	43.9	43.9
43	43.0	43.0	43.0	42.9	42.9	42.9	42.9	42.9	42.9
44	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	41.9
45	41.1	41.1	41.1	41.0	41.0	41.0	41.0	41.0	41.0
46	40.1	40.1	40.1	40.1	40.1	40.1	40.1	40.0	40.0
47	39.2	39.2	39.2	39.2	39.1	39.1	39.1	39.1	39.1
48	38.3	38.3	38.2	38.2	38.2	38.2	38.2	38.2	38.1
49	37.3	37.3	37.3	37.3	37.3	37.2	37.2	37.2	37.2
50	36.4	36.4	36.4	36.3	36.3	36.3	36.3	36.3	36.3
51	35.5	35.5	35.4	35.4	35.4	35.4	35.4	35.3	35.3
52	34.6	34.6	34.5	34.5	34.5	34.5	34.4	34.4	34.4
53	33.7	33.7	33.6	33.6	33.6	33.5	33.5	33.5	33.5
54	32.8	32.8	32.7	32.7	32.7	32.6	32.6	32.6	32.6
55	31.9	31.9	31.8	31.8	31.8	31.7	31.7	31.7	31.7
56	31.1	31.0	31.0	30.9	30.9	30.9	30.8	30.8	30.8
57	30.2	30.1	30.1	30.0	30.0	30.0	29.9	29.9	29.9
58	29.3	29.3	29.2	29.2	29.1	29.1	29.1	29.0	29.0
59	28.5	28.4	28.4	28.3	28.3	28.2	28.2	28.2	28.2
60	27.7	27.6	27.5	27.5	27.4	27.4	27.4	27.3	27.3
61	26.9	26.8	26.7	26.7	26.6	26.6	26.5	26.5	26.4

62	26.0	26.0	25.9	25.8	25.8	25.7	25.7	25.6	25.6
63	25.2	25.2	25.1	25.0	25.0	24.9	24.9	24.8	24.8
64	24.5	24.4	24.3	24.2	24.1	24.1	24.0	24.0	24.0
65	23.7	23.6	23.5	23.4	23.3	23.3	23.2	23.2	23.1
66	22.9	22.8	22.7	22.6	22.6	22.5	22.4	22.4	22.3
67	22.2	22.1	22.0	21.9	21.8	21.7	21.6	21.6	21.5
68	21.5	21.3	21.2	21.1	21.0	20.9	20.9	20.8	20.7
69	20.7	20.6	20.5	20.4	20.3	20.2	20.1	20.0	20.0
70	20.0	19.9	19.7	19.6	19.5	19.4	19.3	19.2	19.2
71	19.4	19.2	19.0	18.9	18.8	18.7	18.6	18.5	18.4
72	18.7	18.5	18.3	18.2	18.1	17.9	17.8	17.7	17.7
73	18.1	17.9	17.7	17.5	17.4	17.2	17.1	17.0	16.9
74	17.4	17.2	17.0	16.8	16.7	16.5	16.4	16.3	16.2
75	16.9	16.6	16.4	16.2	16.0	15.9	15.7	15.6	15.5
76	16.3	16.0	15.8	15.6	15.4	15.2	15.1	14.9	14.8
77	15.8	15.5	15.2	15.0	14.8	14.6	14.4	14.3	14.2
78	15.3	15.0	14.7	14.4	14.2	14.0	13.8	13.7	13.5
79	14.8	14.5	14.2	13.9	13.6	13.4	13.2	13.1	12.9
80	14.4	14.0	13.7	13.4	13.1	12.9	12.7	12.5	12.3
81	14.0	13.6	13.2	12.9	12.6	12.4	12.2	12.0	11.8
82	13.6	13.2	12.8	12.5	12.2	11.9	11.7	11.5	11.3
83	13.2	12.8	12.4	12.1	11.8	11.5	11.2	11.0	10.8
84	12.9	12.5	12.1	11.7	11.4	11.1	10.8	10.5	10.3
85	12.6	12.2	11.8	11.4	11.0	10.7	10.4	10.1	9.9
86	12.4	11.9	11.5	11.1	10.7	10.4	10.0	9.8	9.5
87	12.2	11.7	11.2	10.8	10.4	10.0	9.7	9.4	9.1



88	12.0	11.5	11.0	10.5	10.1	9.8	9.4	9.1	8.8
89	11.8	11.3	10.8	10.3	9.9	9.5	9.1	8.8	8.5
90	11.6	11.1	10.6	10.1	9.7	9.3	8.9	8.6	8.3
91	11.5	10.9	10.4	9.9	9.5	9.1	8.7	8.3	8.0
92	11.4	10.8	10.3	9.8	9.3	8.9	8.5	8.1	7.8
93	11.3	10.7	10.1	9.6	9.2	8.7	8.3	7.9	7.6
94	11.2	10.6	10.0	9.5	9.0	8.6	8.2	7.8	7.4
95	11.1	10.5	9.9	9.4	8.9	8.5	8.0	7.6	7.3
96	11.0	10.4	9.9	9.3	8.8	8.4	7.9	7.5	7.1
97	11.0	10.4	9.8	9.2	8.7	8.3	7.8	7.4	7.0
98	10.9	10.3	9.7	9.2	8.7	8.2	7.7	7.3	6.9
99	10.9	10.2	9.7	9.1	8.6	8.1	7.6	7.2	6.8
100	10.8	10.2	9.6	9.1	8.5	8.0	7.6	7.2	6.8
101	10.8	10.2	9.6	9.0	8.5	8.0	7.5	7.1	6.7
102	10.8	10.1	9.6	9.0	8.5	8.0	7.5	7.0	6.6
103	10.7	10.1	9.5	9.0	8.4	7.9	7.4	7.0	6.6
104	10.7	10.1	9.5	8.9	8.4	7.9	7.4	7.0	6.6
105	10.7	10.1	9.5	8.9	8.4	7.9	7.4	6.9	6.5
106	10.7	10.1	9.5	8.9	8.4	7.9	7.4	6.9	6.5
107	10.7	10.1	9.5	8.9	8.4	7.9	7.4	6.9	6.5
108	10.7	10.1	9.5	8.9	8.4	7.8	7.4	6.9	6.5
109	10.7	10.1	9.5	8.9	8.4	7.8	7.4	6.9	6.5
110	10.7	10.1	9.5	8.9	8.3	7.8	7.4	6.9	6.5
111	10.7	10.1	9.5	8.9	8.3	7.8	7.3	6.9	6.5
112	10.7	10.1	9.5	8.9	8.3	7.8	7.3	6.9	6.5
113	10.7	10.0	9.4	8.9	8.3	7.8	7.3	6.9	6.4





44	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9
45	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0
46	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
47	39.1	39.1	39.1	39.1	39.1	39.1	39.1	39.1	39.1
48	38.1	38.1	38.1	38.1	38.1	38.1	38.1	38.1	38.1
49	37.2	37.2	37.2	37.2	37.2	37.2	37.2	37.2	37.2
50	36.3	36.2	36.2	36.2	36.2	36.2	36.2	36.2	36.2
51	35.3	35.3	35.3	35.3	35.3	35.3	35.3	35.3	35.3
52	34.4	34.4	34.4	34.4	34.4	34.4	34.3	34.3	34.3
53	33.5	33.5	33.5	33.4	33.4	33.4	33.4	33.4	33.4
54	32.6	32.5	32.5	32.5	32.5	32.5	32.5	32.5	32.5
55	31.7	31.6	31.6	31.6	31.6	31.6	31.6	31.6	31.6
56	30.8	30.7	30.7	30.7	30.7	30.7	30.7	30.7	30.7
57	29.9	29.9	29.8	29.8	29.8	29.8	29.8	29.8	29.8
58	29.0	29.0	29.0	29.0	28.9	28.9	28.9	28.9	28.9
59	28.1	28.1	28.1	28.1	28.1	28.1	28.0	28.0	28.0
60	27.3	27.3	27.2	27.2	27.2	27.2	27.2	27.2	27.2
61	26.4	26.4	26.4	26.4	26.3	26.3	26.3	26.3	26.3
62	25.6	25.6	25.5	25.5	25.5	25.5	25.5	25.5	25.5
63	24.7	24.7	24.7	24.7	24.7	24.6	24.6	24.6	24.6
64	23.9	23.9	23.9	23.8	23.8	23.8	23.8	23.8	23.8
65	23.1	23.1	23.0	23.0	23.0	23.0	23.0	23.0	22.9
66	22.3	22.3	22.2	22.2	22.2	22.2	22.2	22.1	22.1
67	21.5	21.5	21.4	21.4	21.4	21.4	21.3	21.3	21.3
68	20.7	20.7	20.6	20.6	20.6	20.6	20.5	20.5	20.5
69	19.9	19.9	19.8	19.8	19.8	19.7	19.7	19.7	19.7

70	19.1	19.1	19.0	19.0	19.0	18.9	18.9	18.9	18.9
71	18.4	18.3	18.3	18.2	18.2	18.2	18.1	18.1	18.1
72	17.6	17.5	17.5	17.4	17.4	17.4	17.4	17.3	17.3
73	16.9	16.8	16.7	16.7	16.6	16.6	16.6	16.6	16.5
74	16.1	16.1	16.0	15.9	15.9	15.9	15.8	15.8	15.8
75	15.4	15.3	15.3	15.2	15.2	15.1	15.1	15.0	15.0
76	14.7	14.6	14.6	14.5	14.4	14.4	14.3	14.3	14.3
77	14.1	14.0	13.9	13.8	13.7	13.7	13.6	13.6	13.6
78	13.4	13.3	13.2	13.1	13.1	13.0	12.9	12.9	12.9
79	12.8	12.7	12.6	12.5	12.4	12.3	12.3	12.2	12.2
80	12.2	12.1	11.9	11.9	11.8	11.7	11.6	11.6	11.5
81	11.6	11.5	11.4	11.3	11.2	11.1	11.0	11.0	10.9
82	11.1	10.9	10.8	10.7	10.6	10.5	10.4	10.4	10.3
83	10.6	10.4	10.3	10.1	10.0	9.9	9.9	9.8	9.7
84	10.1	9.9	9.8	9.6	9.5	9.4	9.3	9.2	9.2
85	9.7	9.5	9.3	9.2	9.0	8.9	8.8	8.7	8.7
86	9.3	9.1	8.9	8.7	8.6	8.5	8.4	8.3	8.2
87	8.9	8.7	8.5	8.3	8.2	8.0	7.9	7.8	7.7
88	8.6	8.3	8.1	7.9	7.8	7.6	7.5	7.4	7.3
89	8.3	8.0	7.8	7.6	7.4	7.3	7.1	7.0	6.9
90	8.0	7.7	7.5	7.3	7.1	6.9	6.8	6.7	6.6
91	7.7	7.5	7.2	7.0	6.8	6.6	6.5	6.4	6.2
92	7.5	7.2	7.0	6.7	6.5	6.4	6.2	6.1	5.9
93	7.3	7.0	6.7	6.5	6.3	6.1	5.9	5.8	5.7
94	7.1	6.8	6.5	6.3	6.1	5.9	5.7	5.5	5.4
95	6.9	6.6	6.4	6.1	5.9	5.7	5.5	5.3	5.2

96	6.8	6.5	6.2	5.9	5.7	5.5	5.3	5.1	5.0
97	6.7	6.4	6.1	5.8	5.5	5.3	5.1	4.9	4.8
98	6.6	6.2	5.9	5.7	5.4	5.2	5.0	4.8	4.6
99	6.5	6.1	5.8	5.5	5.3	5.0	4.8	4.6	4.5
100	6.4	6.0	5.7	5.4	5.2	4.9	4.7	4.5	4.3
101	6.3	6.0	5.6	5.3	5.1	4.8	4.6	4.4	4.2
102	6.3	5.9	5.6	5.3	5.0	4.7	4.5	4.3	4.1
103	6.2	5.9	5.5	5.2	4.9	4.7	4.5	4.2	4.1
104	6.2	5.8	5.5	5.2	4.9	4.6	4.4	4.2	4.0
105	6.1	5.8	5.4	5.1	4.9	4.6	4.4	4.1	4.0
106	6.1	5.8	5.4	5.1	4.8	4.6	4.3	4.1	3.9
107	6.1	5.8	5.4	5.1	4.8	4.6	4.3	4.1	3.9
108	6.1	5.7	5.4	5.1	4.8	4.5	4.3	4.1	3.9
109	6.1	5.7	5.4	5.1	4.8	4.5	4.3	4.1	3.9
110	6.1	5.7	5.4	5.1	4.8	4.5	4.3	4.1	3.9
111	6.1	5.7	5.4	5.1	4.8	4.5	4.3	4.1	3.9
112	6.1	5.7	5.4	5.1	4.8	4.5	4.3	4.0	3.8
113	6.1	5.7	5.3	5.0	4.7	4.5	4.2	4.0	3.8
114	6.0	5.7	5.3	5.0	4.7	4.4	4.2	4.0	3.8
115	6.0	5.6	5.3	5.0	4.7	4.4	4.2	4.0	3.8
116	6.0	5.6	5.2	4.9	4.6	4.4	4.1	3.9	3.7
117	5.9	5.5	5.2	4.9	4.6	4.3	4.0	3.8	3.6
118	5.8	5.5	5.1	4.8	4.5	4.2	3.9	3.7	3.5
119	5.8	5.4	5.0	4.7	4.4	4.1	3.8	3.6	3.3
120+	5.7	5.3	4.9	4.6	4.3	4.0	3.7	3.4	3.2
<b>Ages</b>	<b>99</b>	<b>100</b>	<b>101</b>	<b>102</b>	<b>103</b>	<b>104</b>	<b>105</b>	<b>106</b>	<b>107</b>







52	34.3	34.3	34.3	34.3	34.3	34.3	34.3	34.3	34.3
53	33.4	33.4	33.4	33.4	33.4	33.4	33.4	33.4	33.4
54	32.5	32.5	32.5	32.5	32.5	32.5	32.5	32.5	32.5
55	31.6	31.6	31.6	31.6	31.6	31.6	31.6	31.6	31.6
56	30.7	30.7	30.7	30.7	30.7	30.7	30.7	30.7	30.7
57	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8
58	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9	28.9
59	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0
60	27.2	27.1	27.1	27.1	27.1	27.1	27.1	27.1	27.1
61	26.3	26.3	26.3	26.3	26.3	26.3	26.3	26.3	26.3
62	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4
63	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6
64	23.8	23.8	23.8	23.7	23.7	23.7	23.7	23.7	23.7
65	22.9	22.9	22.9	22.9	22.9	22.9	22.9	22.9	22.9
66	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1
67	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3
68	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5
69	19.7	19.7	19.7	19.7	19.6	19.6	19.6	19.6	19.6
70	18.9	18.9	18.9	18.8	18.8	18.8	18.8	18.8	18.8
71	18.1	18.1	18.1	18.0	18.0	18.0	18.0	18.0	18.0
72	17.3	17.3	17.3	17.3	17.3	17.2	17.2	17.2	17.2
73	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
74	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7
75	15.0	15.0	15.0	14.9	14.9	14.9	14.9	14.9	14.9
76	14.3	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2
77	13.5	13.5	13.5	13.5	13.5	13.5	13.4	13.4	13.4

78	12.8	12.8	12.8	12.8	12.8	12.7	12.7	12.7	12.7
79	12.2	12.1	12.1	12.1	12.1	12.0	12.0	12.0	12.0
80	11.5	11.5	11.4	11.4	11.4	11.4	11.4	11.4	11.4
81	10.9	10.8	10.8	10.8	10.7	10.7	10.7	10.7	10.7
82	10.2	10.2	10.2	10.1	10.1	10.1	10.1	10.1	10.1
83	9.7	9.6	9.6	9.6	9.5	9.5	9.5	9.5	9.5
84	9.1	9.1	9.0	9.0	9.0	8.9	8.9	8.9	8.9
85	8.6	8.5	8.5	8.5	8.4	8.4	8.4	8.4	8.4
86	8.1	8.0	8.0	8.0	7.9	7.9	7.9	7.9	7.9
87	7.6	7.6	7.5	7.5	7.4	7.4	7.4	7.4	7.4
88	7.2	7.2	7.1	7.0	7.0	7.0	6.9	6.9	6.9
89	6.8	6.8	6.7	6.6	6.6	6.6	6.5	6.5	6.5
90	6.5	6.4	6.3	6.3	6.2	6.2	6.1	6.1	6.1
91	6.1	6.0	6.0	5.9	5.9	5.8	5.8	5.8	5.8
92	5.8	5.7	5.6	5.6	5.5	5.5	5.4	5.4	5.4
93	5.5	5.4	5.3	5.3	5.2	5.2	5.1	5.1	5.1
94	5.3	5.2	5.1	5.0	4.9	4.9	4.9	4.8	4.8
95	5.0	4.9	4.8	4.7	4.7	4.6	4.6	4.6	4.6
96	4.8	4.7	4.6	4.5	4.5	4.4	4.4	4.3	4.3
97	4.6	4.5	4.4	4.3	4.2	4.2	4.1	4.1	4.1
98	4.5	4.3	4.2	4.1	4.1	4.0	4.0	3.9	3.9
99	4.3	4.2	4.1	4.0	3.9	3.8	3.8	3.8	3.7
100	4.2	4.1	3.9	3.8	3.7	3.7	3.6	3.6	3.6
101	4.1	3.9	3.8	3.7	3.6	3.5	3.5	3.5	3.4
102	4.0	3.8	3.7	3.6	3.5	3.4	3.4	3.3	3.3
103	3.9	3.7	3.6	3.5	3.4	3.3	3.3	3.2	3.2







60	27.1	27.1	27.1	27.1	27.1	27.1	27.1	27.1	27.1
61	26.3	26.3	26.3	26.3	26.3	26.3	26.3	26.3	26.3
62	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4
63	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6
64	23.7	23.7	23.7	23.7	23.7	23.7	23.7	23.7	23.7
65	22.9	22.9	22.9	22.9	22.9	22.9	22.9	22.9	22.9
66	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1
67	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3
68	20.5	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4
69	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6
70	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8
71	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
72	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2
73	16.5	16.4	16.4	16.4	16.4	16.4	16.4	16.4	16.4
74	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.6
75	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9
76	14.2	14.2	14.2	14.2	14.2	14.2	14.1	14.1	14.1
77	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4
78	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7
79	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
80	11.4	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3
81	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.6
82	10.1	10.1	10.1	10.1	10.1	10.0	10.0	10.0	10.0
83	9.5	9.5	9.5	9.5	9.5	9.4	9.4	9.4	9.4
84	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.8	8.8
85	8.4	8.4	8.3	8.3	8.3	8.3	8.3	8.3	8.3

86	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.7
87	7.4	7.4	7.4	7.3	7.3	7.3	7.3	7.3	7.3
88	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.8	6.8
89	6.5	6.5	6.5	6.5	6.5	6.4	6.4	6.4	6.4
90	6.1	6.1	6.1	6.1	6.1	6.1	6.0	6.0	6.0
91	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.6	5.6
92	5.4	5.4	5.4	5.4	5.4	5.3	5.3	5.3	5.2
93	5.1	5.1	5.1	5.1	5.1	5.0	5.0	5.0	4.9
94	4.8	4.8	4.8	4.8	4.8	4.7	4.7	4.7	4.6
95	4.5	4.5	4.5	4.5	4.5	4.5	4.4	4.4	4.4
96	4.3	4.3	4.3	4.3	4.3	4.2	4.2	4.2	4.1
97	4.1	4.1	4.1	4.1	4.0	4.0	4.0	4.0	3.9
98	3.9	3.9	3.9	3.9	3.8	3.8	3.8	3.8	3.7
99	3.7	3.7	3.7	3.7	3.7	3.6	3.6	3.6	3.5
100	3.6	3.6	3.5	3.5	3.5	3.5	3.5	3.4	3.3
101	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.3	3.2
102	3.3	3.3	3.3	3.3	3.3	3.2	3.2	3.2	3.1
103	3.2	3.2	3.2	3.2	3.2	3.1	3.1	3.1	3.0
104	3.1	3.1	3.1	3.1	3.1	3.1	3.0	3.0	2.9
105	3.1	3.1	3.1	3.0	3.0	3.0	3.0	2.9	2.8
106	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.9	2.8
107	3.0	3.0	3.0	3.0	3.0	2.9	2.9	2.9	2.8
108	3.0	3.0	3.0	3.0	2.9	2.9	2.9	2.8	2.8
109	3.0	3.0	3.0	3.0	2.9	2.9	2.9	2.8	2.8
110	3.0	3.0	3.0	2.9	2.9	2.9	2.9	2.8	2.7
111	3.0	3.0	2.9	2.9	2.9	2.9	2.8	2.8	2.7

112	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.8	2.7
113	2.9	2.9	2.9	2.9	2.9	2.8	2.8	2.8	2.7
114	2.9	2.9	2.9	2.8	2.8	2.8	2.8	2.7	2.6
115	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.7	2.6
116	2.8	2.8	2.7	2.7	2.7	2.7	2.6	2.6	2.5
117	2.7	2.6	2.6	2.6	2.6	2.6	2.5	2.5	2.4
118	2.5	2.5	2.5	2.4	2.4	2.4	2.4	2.3	2.2
119	2.3	2.3	2.2	2.2	2.2	2.2	2.1	2.1	2.0
120+	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.8	1.8

<b>Ages</b>	<b>117</b>	<b>118</b>	<b>119</b>	<b>120+</b>
0	84.6	84.6	84.6	84.6
1	83.7	83.7	83.7	83.7
2	82.8	82.8	82.8	82.8
3	81.8	81.8	81.8	81.8
4	80.8	80.8	80.8	80.8
5	79.8	79.8	79.8	79.8
6	78.8	78.8	78.8	78.8
7	77.9	77.9	77.9	77.9
8	76.9	76.9	76.9	76.9
9	75.9	75.9	75.9	75.9
10	74.9	74.9	74.9	74.9
11	73.9	73.9	73.9	73.9
12	72.9	72.9	72.9	72.9
13	71.9	71.9	71.9	71.9
14	70.9	70.9	70.9	70.9
15	69.9	69.9	69.9	69.9



16	69.0	69.0	69.0	69.0
17	68.0	68.0	68.0	68.0
18	67.0	67.0	67.0	67.0
19	66.0	66.0	66.0	66.0
20	65.0	65.0	65.0	65.0
21	64.1	64.1	64.1	64.1
22	63.1	63.1	63.1	63.1
23	62.1	62.1	62.1	62.1
24	61.1	61.1	61.1	61.1
25	60.2	60.2	60.2	60.2
26	59.2	59.2	59.2	59.2
27	58.2	58.2	58.2	58.2
28	57.3	57.3	57.3	57.3
29	56.3	56.3	56.3	56.3
30	55.3	55.3	55.3	55.3
31	54.4	54.4	54.4	54.4
32	53.4	53.4	53.4	53.4
33	52.5	52.5	52.5	52.5
34	51.5	51.5	51.5	51.5
35	50.5	50.5	50.5	50.5
36	49.6	49.6	49.6	49.6
37	48.6	48.6	48.6	48.6
38	47.7	47.7	47.7	47.7
39	46.7	46.7	46.7	46.7
40	45.7	45.7	45.7	45.7
41	44.8	44.8	44.8	44.8

42	43.8	43.8	43.8	43.8
43	42.9	42.9	42.9	42.9
44	41.9	41.9	41.9	41.9
45	41.0	41.0	41.0	41.0
46	40.0	40.0	40.0	40.0
47	39.0	39.0	39.0	39.0
48	38.1	38.1	38.1	38.1
49	37.1	37.1	37.1	37.1
50	36.2	36.2	36.2	36.2
51	35.3	35.3	35.3	35.3
52	34.3	34.3	34.3	34.3
53	33.4	33.4	33.4	33.4
54	32.5	32.5	32.5	32.5
55	31.6	31.6	31.6	31.6
56	30.7	30.7	30.7	30.6
57	29.8	29.8	29.8	29.8
58	28.9	28.9	28.9	28.9
59	28.0	28.0	28.0	28.0
60	27.1	27.1	27.1	27.1
61	26.3	26.3	26.2	26.2
62	25.4	25.4	25.4	25.4
63	24.6	24.5	24.5	24.5
64	23.7	23.7	23.7	23.7
65	22.9	22.9	22.9	22.9
66	22.1	22.1	22.1	22.0
67	21.2	21.2	21.2	21.2

68	20.4	20.4	20.4	20.4
69	19.6	19.6	19.6	19.6
70	18.8	18.8	18.8	18.8
71	18.0	18.0	18.0	18.0
72	17.2	17.2	17.2	17.2
73	16.4	16.4	16.4	16.4
74	15.6	15.6	15.6	15.6
75	14.9	14.9	14.8	14.8
76	14.1	14.1	14.1	14.1
77	13.4	13.4	13.4	13.3
78	12.7	12.6	12.6	12.6
79	12.0	11.9	11.9	11.9
80	11.3	11.3	11.2	11.2
81	10.6	10.6	10.6	10.5
82	10.0	10.0	9.9	9.9
83	9.4	9.3	9.3	9.3
84	8.8	8.8	8.7	8.7
85	8.2	8.2	8.2	8.1
86	7.7	7.7	7.6	7.6
87	7.2	7.2	7.1	7.1
88	6.8	6.7	6.6	6.6
89	6.3	6.3	6.2	6.1
90	5.9	5.8	5.8	5.7
91	5.5	5.5	5.4	5.3
92	5.2	5.1	5.0	4.9
93	4.9	4.8	4.7	4.6

94	4.6	4.5	4.4	4.3
95	4.3	4.2	4.1	4.0
96	4.0	3.9	3.8	3.7
97	3.8	3.7	3.6	3.4
98	3.6	3.5	3.3	3.2
99	3.4	3.3	3.1	3.0
100	3.3	3.1	2.9	2.8
101	3.1	3.0	2.8	2.6
102	3.0	2.8	2.6	2.5
103	2.9	2.7	2.5	2.3
104	2.8	2.6	2.4	2.2
105	2.7	2.6	2.4	2.1
106	2.7	2.5	2.3	2.1
107	2.7	2.5	2.3	2.1
108	2.7	2.5	2.3	2.0
109	2.6	2.5	2.3	2.0
110	2.6	2.5	2.2	2.0
111	2.6	2.4	2.2	2.0
112	2.6	2.4	2.2	2.0
113	2.6	2.4	2.2	1.9
114	2.5	2.4	2.1	1.9
115	2.5	2.3	2.1	1.8
116	2.4	2.2	2.0	1.8
117	2.3	2.1	1.9	1.6
118	2.1	1.9	1.7	1.4
119	1.9	1.7	1.3	1.1

120+	1.6	1.4	1.1	1.0
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(e) *Mortality rates.* The following are the mortality rates used to calculate the tables set forth in paragraphs (b), (c), and (d) of this section.

Table 4 to Paragraph (e)

<i>Age</i>	<i>Probability of Death</i>
0	0.001762
1	0.000441
2	0.000292
3	0.000232
4	0.000177
5	0.000161
6	0.000153
7	0.000145
8	0.000132
9	0.000127
10	0.000128
11	0.000135
12	0.000146
13	0.000164
14	0.000192
15	0.000223
16	0.000253
17	0.000276
18	0.000293
19	0.000304

20	0.000313
21	0.000343
22	0.000377
23	0.000421
24	0.000466
25	0.000520
26	0.000581
27	0.000630
28	0.000677
29	0.000720
30	0.000763
31	0.000799
32	0.000824
33	0.000833
34	0.000830
35	0.000823
36	0.000819
37	0.000824
38	0.000836
39	0.000853
40	0.000879
41	0.000909
42	0.000945
43	0.000980
44	0.001019
45	0.001065

46	0.001132
47	0.001225
48	0.001345
49	0.001485
50	0.001656
51	0.001874
52	0.002121
53	0.002397
54	0.002701
55	0.003032
56	0.003390
57	0.003774
58	0.004181
59	0.004613
60	0.005071
61	0.005554
62	0.006071
63	0.006624
64	0.007225
65	0.007884
66	0.008238
67	0.008659
68	0.009163
69	0.009767
70	0.010491
71	0.011358

72	0.012385
73	0.013598
74	0.015014
75	0.016670
76	0.018587
77	0.020815
78	0.023391
79	0.026387
80	0.029850
81	0.033883
82	0.038544
83	0.043880
84	0.049956
85	0.056799
86	0.064436
87	0.072882
88	0.082137
89	0.092172
90	0.102919
91	0.114344
92	0.126605
93	0.139936
94	0.154844
95	0.171902
96	0.187210
97	0.204659



98	0.222921
99	0.241884
100	0.261476
101	0.281536
102	0.301847
103	0.322371
104	0.342940
105	0.361261
106	0.372886
107	0.381098
108	0.383358
109	0.385709
110	0.388092
111	0.390353
112	0.392822
113	0.395188
114	0.397567
115	0.400000
116	0.400000
117	0.400000
118	0.400000
119	0.400000
120	0.400000

(f) *Applicability dates--(1) In general.* The life expectancy tables and Uniform Lifetime Table set forth in this section apply for distribution calendar years beginning on or after January 1, 2022. For life expectancy tables and the Uniform Lifetime Table

applicable for earlier distribution calendar years, see §1.401(a)(9)-9, as set forth in 26 CFR part 1 revised as of April 1, 2020 (formerly applicable §1.401(a)(9)-9).

*(2) Application to life expectancies that may not be recalculated--*

*(i) Redetermination of initial life expectancy using current tables.* If an employee died before January 1, 2022, and, under the rules of §1.401(a)(9)-5, the distribution period that applies for a calendar year following the calendar year of the employee's death is equal to a single life expectancy calculated as of the calendar year of the employee's death (or, if applicable, the following calendar year), reduced by 1 for each subsequent year, then that life expectancy is reset as provided in paragraph (f)(2)(ii) of this section. Similarly, if an employee's sole beneficiary is the employee's surviving spouse, and the spouse dies before January 1, 2022, then the spouse's life expectancy for the calendar year of the spouse's death (which is used to determine the applicable distribution period for later years) is reset as provided in paragraph (f)(2)(ii) of this section.

*(ii) Determination of applicable distribution period--(A) Distribution period based on new life expectancy.* With respect to a life expectancy described in paragraph (f)(2)(i) of this section, the distribution period that applies for a distribution calendar year beginning on or after January 1, 2022, is determined by using the Single Life Table in paragraph (b) of this section to determine the initial life expectancy for the age of the relevant individual in the relevant calendar year and then reducing the resulting distribution period by 1 for each subsequent year. However, see section 401(a)(9)(H)(ii) and (iii) for rules limiting the availability of a life expectancy distribution period.

(B) *Example of redetermination.* Assume that an employee died at age 80 in 2019 and the employee's designated beneficiary (who was not the employee's spouse) was age 75 in the year of the employee's death. For 2020, the distribution period that would have applied for the beneficiary was 12.7 years (the period applicable for a 76-year-old under the Single Life Table in formerly applicable §1.401(a)(9)-9), and for 2021, it would have been 11.7 years (the original distribution period, reduced by 1 year). For 2022, if the designated beneficiary is still alive, then the applicable distribution period would be 12.1 years (the 14.1-year life expectancy for a 76-year-old under the Single Life Table in paragraph (b) of this section, reduced by 2 years). However, see section 401(a)(9)(H)(iii) for rules regarding how to apply the required distribution rules to defined contribution plans if the eligible designated beneficiary dies prior to distribution of the employee's entire interest.

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