

Ejercicios 1

|  |  |  |
| --- | --- | --- |
| Tabla de mortalidad de los nacidos en 1977 |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Edad** | **lx** | **Edad** | **lx** | **Edad** | **lx** |
| 0 | 100000 | 34 | 98437 | 68 | 95832 |
| 1 | 99193 | 35 | 98413 | 69 | 95625 |
| 2 | 99130 | 36 | 98385 | 70 | 95397 |
| 3 | 99085 | 37 | 98357 | 71 | 95150 |
| 4 | 99056 | 38 | 98329 | 72 | 94876 |
| 5 | 99029 | 39 | 98301 | 73 | 94575 |
| 6 | 99008 | 40 | 98273 | 74 | 94238 |
| 7 | 98989 | 41 | 98241 | 75 | 93862 |
| 8 | 98972 | 42 | 98210 | 76 | 93443 |
| 9 | 98959 | 43 | 98176 | 77 | 92974 |
| 10 | 98948 | 44 | 98139 | 78 | 92448 |
| 11 | 98935 | 45 | 98101 | 79 | 91864 |
| 12 | 98922 | 46 | 98058 | 80 | 91213 |
| 13 | 98908 | 47 | 98016 | 81 | 90475 |
| 14 | 98892 | 48 | 97970 | 82 | 89606 |
| 15 | 98877 | 49 | 97924 | 83 | 88611 |
| 16 | 98860 | 50 | 97869 | 84 | 87449 |
| 17 | 98841 | 51 | 97809 | 85 | 86076 |
| 18 | 98820 | 52 | 97741 | 86 | 84484 |
| 19 | 98798 | 53 | 97673 | 87 | 82673 |
| 20 | 98774 | 54 | 97594 | 88 | 80594 |
| 21 | 98751 | 55 | 97513 | 89 | 78244 |
| 22 | 98728 | 56 | 97427 | 90 | 75576 |
| 23 | 98706 | 57 | 97340 | 91 | 72551 |
| 24 | 98784 | 58 | 97245 | 92 | 69370 |
| 25 | 98661 | 59 | 97143 | 93 | 65689 |
| 26 | 98639 | 60 | 97035 | 94 | 61476 |
| 27 | 98615 | 61 | 96917 | 95 | 56669 |
| 28 | 98590 | 62 | 96792 | 96 | 51276 |
| 29 | 98564 | 63 | 96657 | 97 | 45348 |
| 30 | 98537 | 64 | 96517 | 98 | 38969 |
| 31 | 98510 | 65 | 96367 |  |  |
| 32 | 98484 | 66 | 96203 |  |  |
| 33 | 98460 | 67 | 96024 |  |  |

Tabla de mortalidad de los nacidos en 1989

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Edad** | **lx** | **Edad** | **lx** | **Edad** | **lx** | **Edad** | **lx** |
| 0 | 1000000 | 25 | 982355 | 50 | 957123 | 75 | 837591 |
| 1 | 993228 | 26 | 981423 | 51 | 955374 | 76 | 826863 |
| 2 | 992576 | 27 | 980489 | 52 | 953448 | 77 | 815410 |
| 3 | 992235 | 28 | 979534 | 53 | 951386 | 78 | 803217 |
| 4 | 991938 | 29 | 978562 | 54 | 948967 | 79 | 790225 |
| 5 | 991690 | 30 | 977593 | 55 | 946447 | 80 | 776316 |
| 6 | 991453 | 31 | 976663 | 56 | 943784 | 81 | 761552 |
| 7 | 991241 | 32 | 975775 | 57 | 940991 | 82 | 745760 |
| 8 | 991040 | 33 | 974883 | 58 | 938011 | 83 | 728977 |
| 9 | 990857 | 34 | 974004 | 59 | 934828 | 84 | 711441 |
| 10 | 990682 | 35 | 973145 | 60 | 931507 | 85 | 693376 |
| 11 | 990517 | 36 | 972315 | 61 | 927835 | 86 | 674340 |
| 12 | 990341 | 37 | 971519 | 62 | 923885 | 87 | 654208 |
| 13 | 990162 | 38 | 970741 | 63 | 919699 | 88 | 633433 |
| 14 | 989951 | 39 | 969918 | 64 | 915266 | 89 | 611812 |
| 15 | 989699 | 40 | 969032 | 65 | 910440 | 90 | 589207 |
| 16 | 989361 | 41 | 968106 | 66 | 905163 | 91 | 565680 |
| 17 | 988897 | 42 | 967126 | 67 | 899583 | 92 | 541383 |
| 18 | 988303 | 43 | 966095 | 68 | 893586 | 93 | 513018 |
| 19 | 987614 | 44 | 965028 | 69 | 887124 | 94 | 480350 |
| 20 | 986851 | 45 | 963905 | 70 | 880245 | 95 | 443066 |
| 21 | 986010 | 46 | 962709 | 71 | 872987 | 96 | 401442 |
| 22 | 985152 | 47 | 961416 | 72 | 865209 | 97 | 355658 |
| 23 | 984248 | 48 | 960080 | 73 | 856735 | 98 | 306269 |
| 24 | 983312 | 49 | 958703 | 74 | 847547 |   |   |

Con la información anterior determinar:

1)La probabilidad de que una persona nacida en 1977 y que tenga 45 años de edad sobreviva 15 años más

2)La probabilidad de que una persona nacida en 1989 y que tenga 45 años de edad sobreviva 15 años más.

3) la probabilidad de que una persona de la generación de 1989 y que tenga 25 años sobreviva 40 años más y muera después antes de alcanzar los 80 años de edad.

4) Calcular la probabilidad de que una pareja formada por dos personas de las generaciones de 1977 y 1989 que se constituyan como tal este año ( 2011) de que sobrevivan ambos más de 10 años.

5) en el caso de la misma pareja calcular la probabilidad de que la pareja de disuelva antes de 15 años ( muera uno de los dos)

6)Misma pareja . Calcular la probabilidad de que muera en 15 el más joven.

7)Misma pareja. Calcular la probabilidad de que muera en 15 años el más viejo

8) Misma pareja .Calcular la probabilidad de que se extinga a los 20 años

9) Calcular la probabilidad de que no se extinga en 30 años

para Caest

Generación 77

|  |  |
| --- | --- |
| **Edad** | **lx** |
| 0 | 100000 |
| 1 | 99193 |
| 2 | 99130 |
| 3 | 99085 |
| 4 | 99056 |
| 5 | 99029 |
| 6 | 99008 |
| 7 | 98989 |
| 8 | 98972 |
| 9 | 98959 |
| 10 | 98948 |
| 11 | 98935 |
| 12 | 98922 |
| 13 | 98908 |
| 14 | 98892 |
| 15 | 98877 |
| 16 | 98860 |
| 17 | 98841 |
| 18 | 98820 |
| 19 | 98798 |
| 20 | 98774 |
| 21 | 98751 |
| 22 | 98728 |
| 23 | 98706 |
| 24 | 98784 |
| 25 | 98661 |
| 26 | 98639 |
| 27 | 98615 |
| 28 | 98590 |
| 29 | 98564 |
| 30 | 98537 |
| 31 | 98510 |
| 32 | 98484 |
| 33 | 98460 |
| 34 | 98437 |
| 35 | 98413 |
| 36 | 98385 |
| 37 | 98357 |
| 38 | 98329 |
| 39 | 98301 |
| 40 | 98273 |
| 41 | 98241 |
| 42 | 98210 |
| 43 | 98176 |
| 44 | 98139 |
| 45 | 98101 |
| 46 | 98058 |
| 47 | 98016 |
| 48 | 97970 |
| 49 | 97924 |
| 50 | 97869 |
| 51 | 97809 |
| 52 | 97741 |
| 53 | 97673 |
| 54 | 97594 |
| 55 | 97513 |
| 56 | 97427 |
| 57 | 97340 |
| 58 | 97245 |
| 59 | 97143 |
| 60 | 97035 |
| 61 | 96917 |
| 62 | 96792 |
| 63 | 96657 |
| 64 | 96517 |
| 65 | 96367 |
| 66 | 96203 |
| 67 | 96024 |
| 68 | 95832 |
| 69 | 95625 |
| 70 | 95397 |
| 71 | 95150 |
| 72 | 94876 |
| 73 | 94575 |
| 74 | 94238 |
| 75 | 93862 |
| 76 | 93443 |
| 77 | 92974 |
| 78 | 92448 |
| 79 | 91864 |
| 80 | 91213 |
| 81 | 90475 |
| 82 | 89606 |
| 83 | 88611 |
| 84 | 87449 |
| 85 | 86076 |
| 86 | 84484 |
| 87 | 82673 |
| 88 | 80594 |
| 89 | 78244 |
| 90 | 75576 |
| 91 | 72551 |
| 92 | 69370 |
| 93 | 65689 |
| 94 | 61476 |
| 95 | 56669 |
| 96 | 51276 |
| 97 | 45348 |
| 98 | 38969 |

Generación 89

|  |  |
| --- | --- |
| **Edad** | **lx** |
| 0 | 1000000 |
| 1 | 993228 |
| 2 | 992576 |
| 3 | 992235 |
| 4 | 991938 |
| 5 | 991690 |
| 6 | 991453 |
| 7 | 991241 |
| 8 | 991040 |
| 9 | 990857 |
| 10 | 990682 |
| 11 | 990517 |
| 12 | 990341 |
| 13 | 990162 |
| 14 | 989951 |
| 15 | 989699 |
| 16 | 989361 |
| 17 | 988897 |
| 18 | 988303 |
| 19 | 987614 |
| 20 | 986851 |
| 21 | 986010 |
| 22 | 985152 |
| 23 | 984248 |
| 24 | 983312 |
| 25 | 982355 |
| 26 | 981423 |
| 27 | 980489 |
| 28 | 979534 |
| 29 | 978562 |
| 30 | 977593 |
| 31 | 976663 |
| 32 | 975775 |
| 33 | 974883 |
| 34 | 974004 |
| 35 | 973145 |
| 36 | 972315 |
| 37 | 971519 |
| 38 | 970741 |
| 39 | 969918 |
| 40 | 969032 |
| 41 | 968106 |
| 42 | 967126 |
| 43 | 966095 |
| 44 | 965028 |
| 45 | 963905 |
| 46 | 962709 |
| 47 | 961416 |
| 48 | 960080 |
| 49 | 958703 |
| 50 | 957123 |
| 51 | 955374 |
| 52 | 953448 |
| 53 | 951386 |
| 54 | 948967 |
| 55 | 946447 |
| 56 | 943784 |
| 57 | 940991 |
| 58 | 938011 |
| 59 | 934828 |
| 60 | 931507 |
| 61 | 927835 |
| 62 | 923885 |
| 63 | 919699 |
| 64 | 915266 |
| 65 | 910440 |
| 66 | 905163 |
| 67 | 899583 |
| 68 | 893586 |
| 69 | 887124 |
| 70 | 880245 |
| 71 | 872987 |
| 72 | 865209 |
| 73 | 856735 |
| 74 | 847547 |
| 75 | 837591 |
| 76 | 826863 |
| 77 | 815410 |
| 78 | 803217 |
| 79 | 790225 |
| 80 | 776316 |
| 81 | 761552 |
| 82 | 745760 |
| 83 | 728977 |
| 84 | 711441 |
| 85 | 693376 |
| 86 | 674340 |
| 87 | 654208 |
| 88 | 633433 |
| 89 | 611812 |
| 90 | 589207 |
| 91 | 565680 |
| 92 | 541383 |
| 93 | 513018 |
| 94 | 480350 |
| 95 | 443066 |
| 96 | 401442 |
| 97 | 355658 |
| 98 | 306269 |