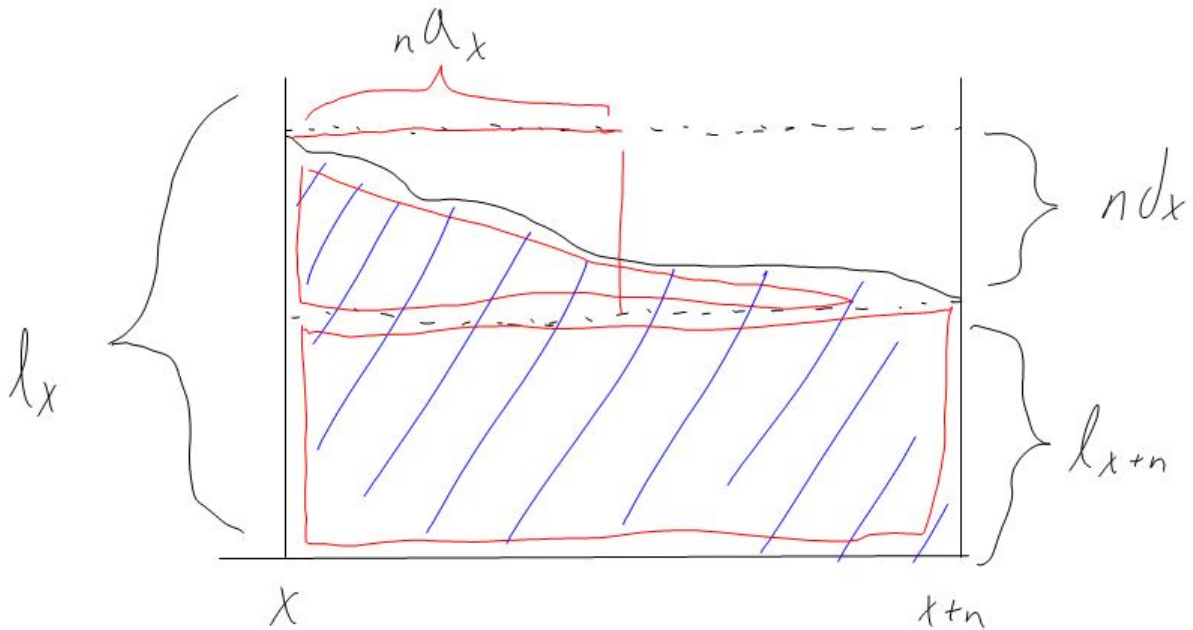


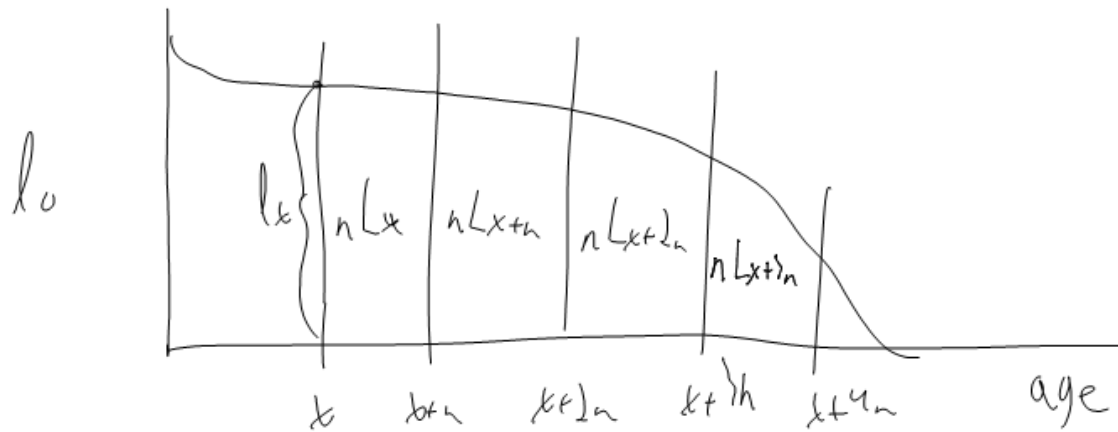
Demography Notes 10/28

Jesse Rouse



- Every moment is counted in person years
- On the chart above person years lived is the area of blue lines
- Person years lived = ${}_nL_x = n \cdot (L_{x+n}) + ({}_na_x) \cdot ({}_nd_x)$
- (This is an approximation of the area of the red triangle plus the red rectangle.)

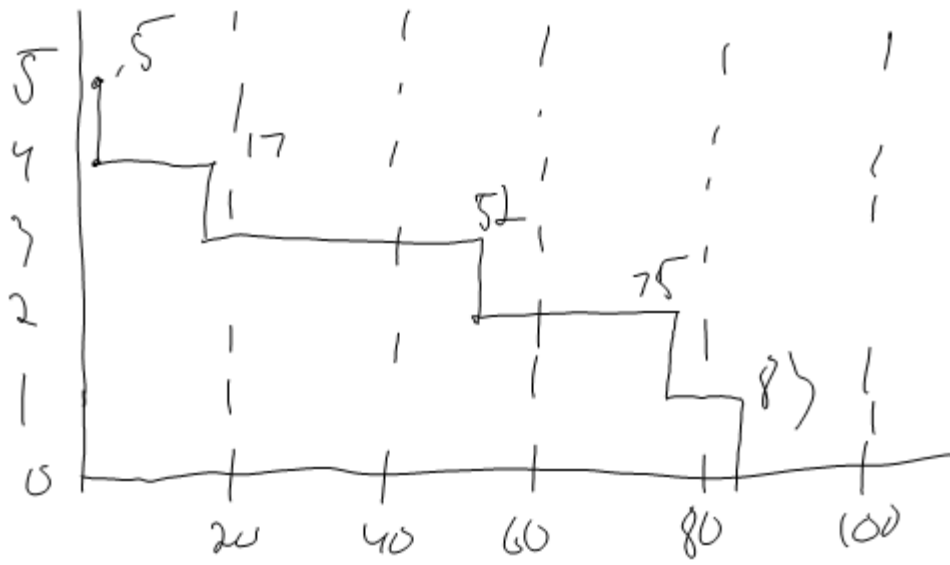
of survivors



- $T_x = \#$ of future birthdays after age x that the cohort will have.
- $T_x = {}_nL_x + {}_nL_{x+n} + {}_nL_{x+2n} + \dots$
- If l_x people will have T_x future birthdays, what's the average number of future birthdays for an x -year-old?
- $e_x = T_x / l_x =$ remaining life expected at age x

A life table for an "extinct" cohort

Person	Age of Death (in years)
A	.5
B	17
C	52
D	75
E	83



x	x	l_x	nd_x	nq_x	na_x	nL_x	T_x	e_x	nm_x
0	20	5	2	.4	8.75	77.5	222.5	45.5	.0258
20	20	3	0	0	NA	60	150	50	0
40	20	3	1	.33	12	52	90	30	.0192
60	20	2	1	.5	15	35	38	19	.0286
80	20	1	1	1	3	3	3	3	.33