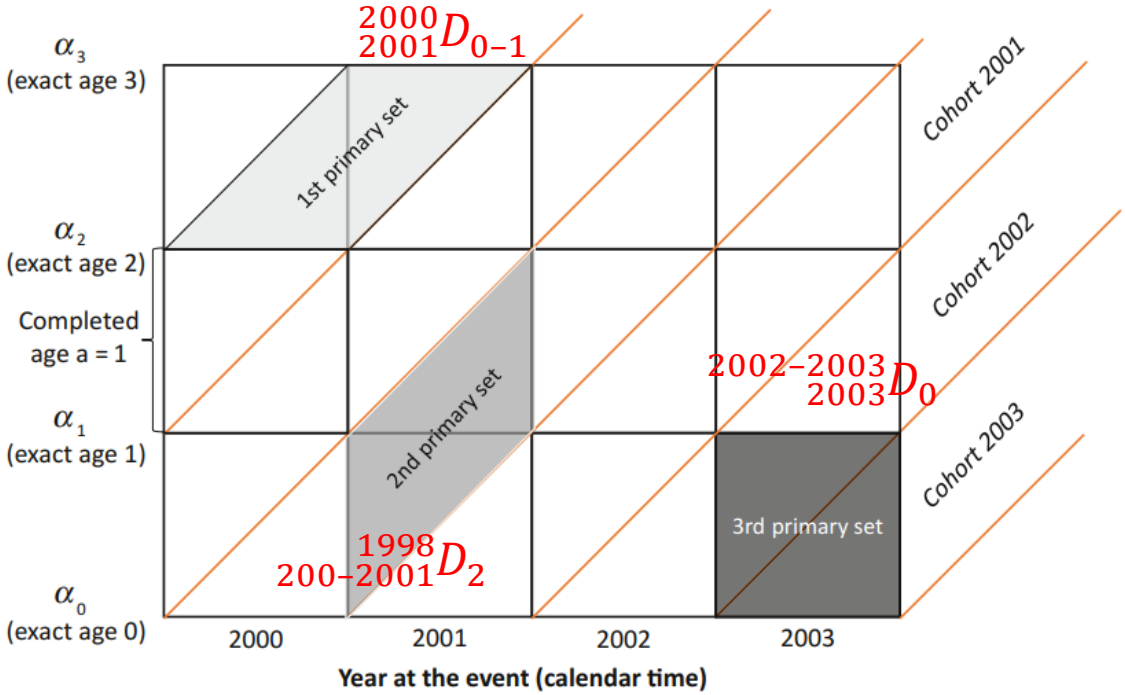
Lexis diagram

Area = calender time, completed age, reached age, cohort
Line ~ calender date, exact age



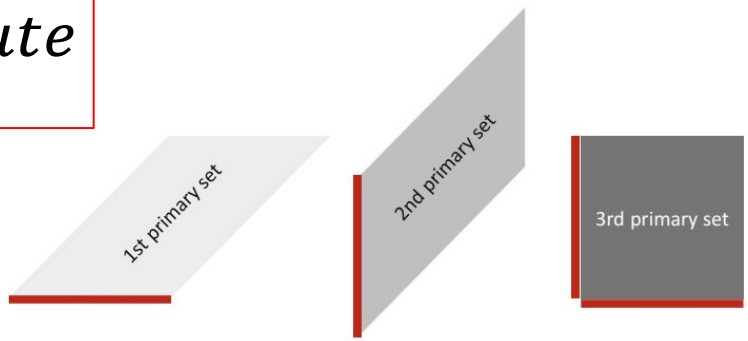
p	calender time (period)
c	cohort
y	age (years) reached
a	age completed
α	exact age
π	particular moment in time
σ	moment of birth

Reached age is the difference between calender time and cohort:
y = p – c

For a single completed age there are two different cohorts. The cohort for upper elementary set equals to:
c = t – a – 1 (*„the older ones“*)
Cohort for lower elementary set equals to:
c = t – a (*„the younger ones“*)

Standard notation:

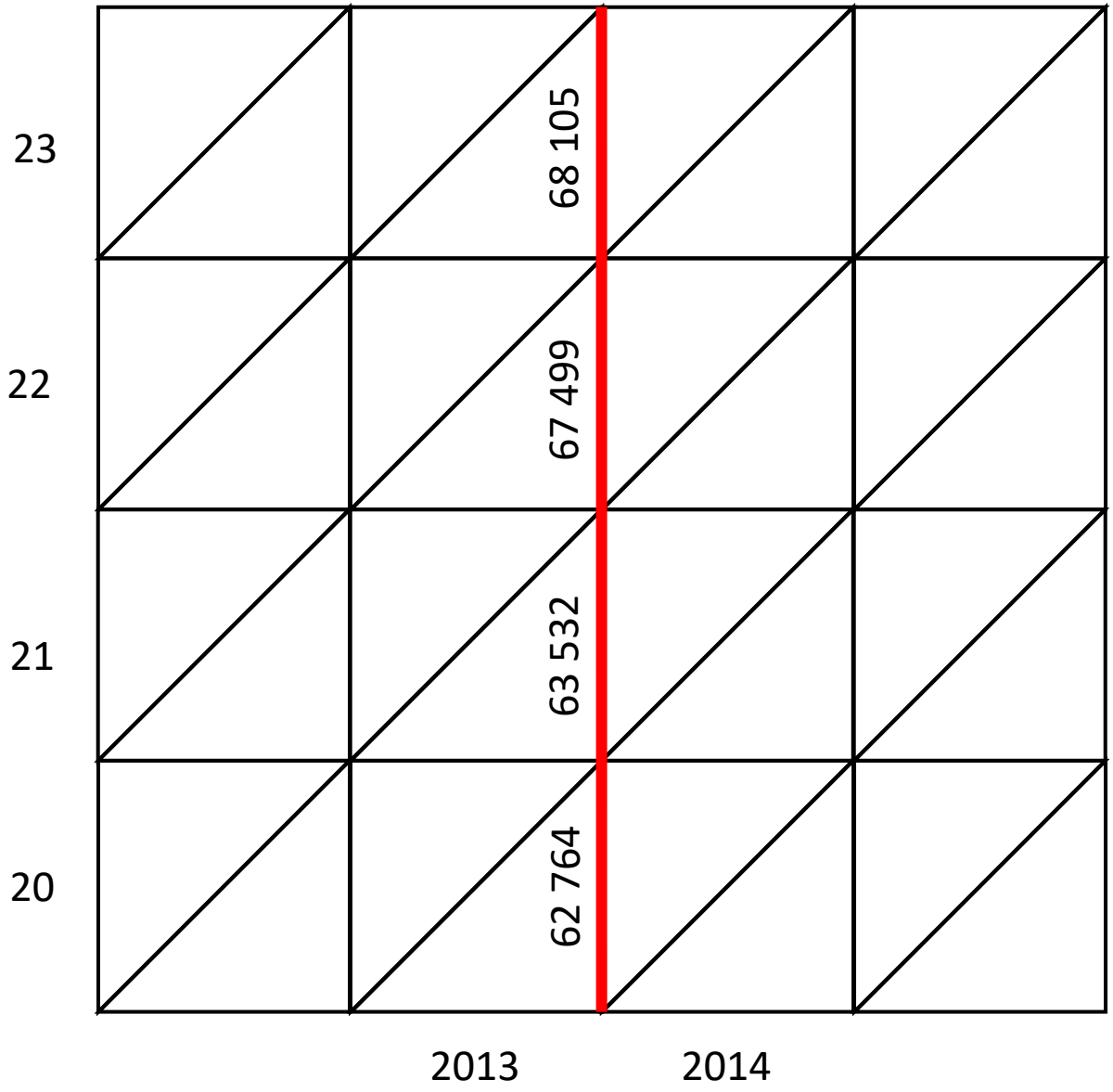
$$^{cohort}_{period}\mathbf{D}^{another\ attribute}_{age}$$



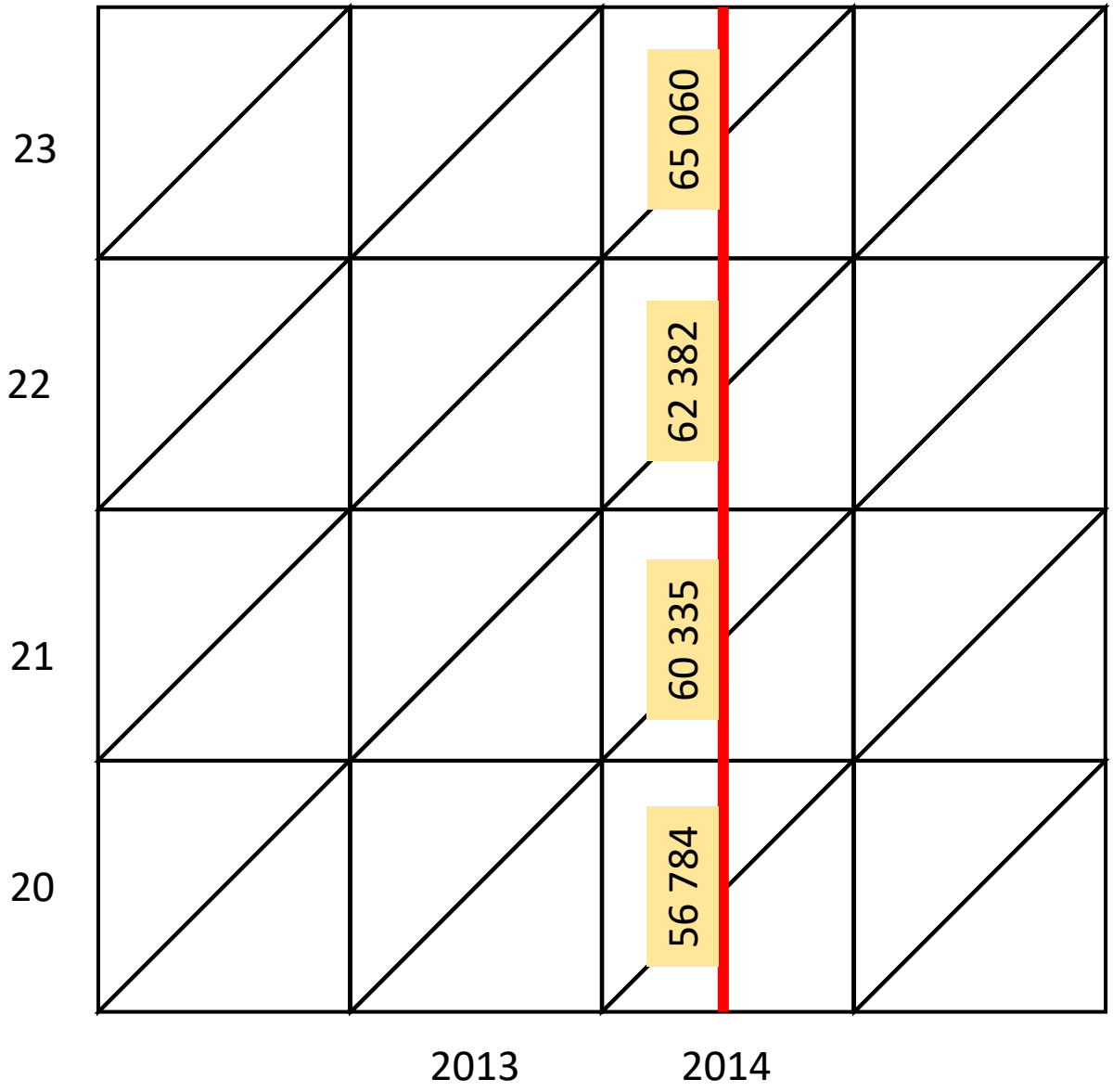
Exercise 1

Data in 9_11_DA1_Exercise_1.

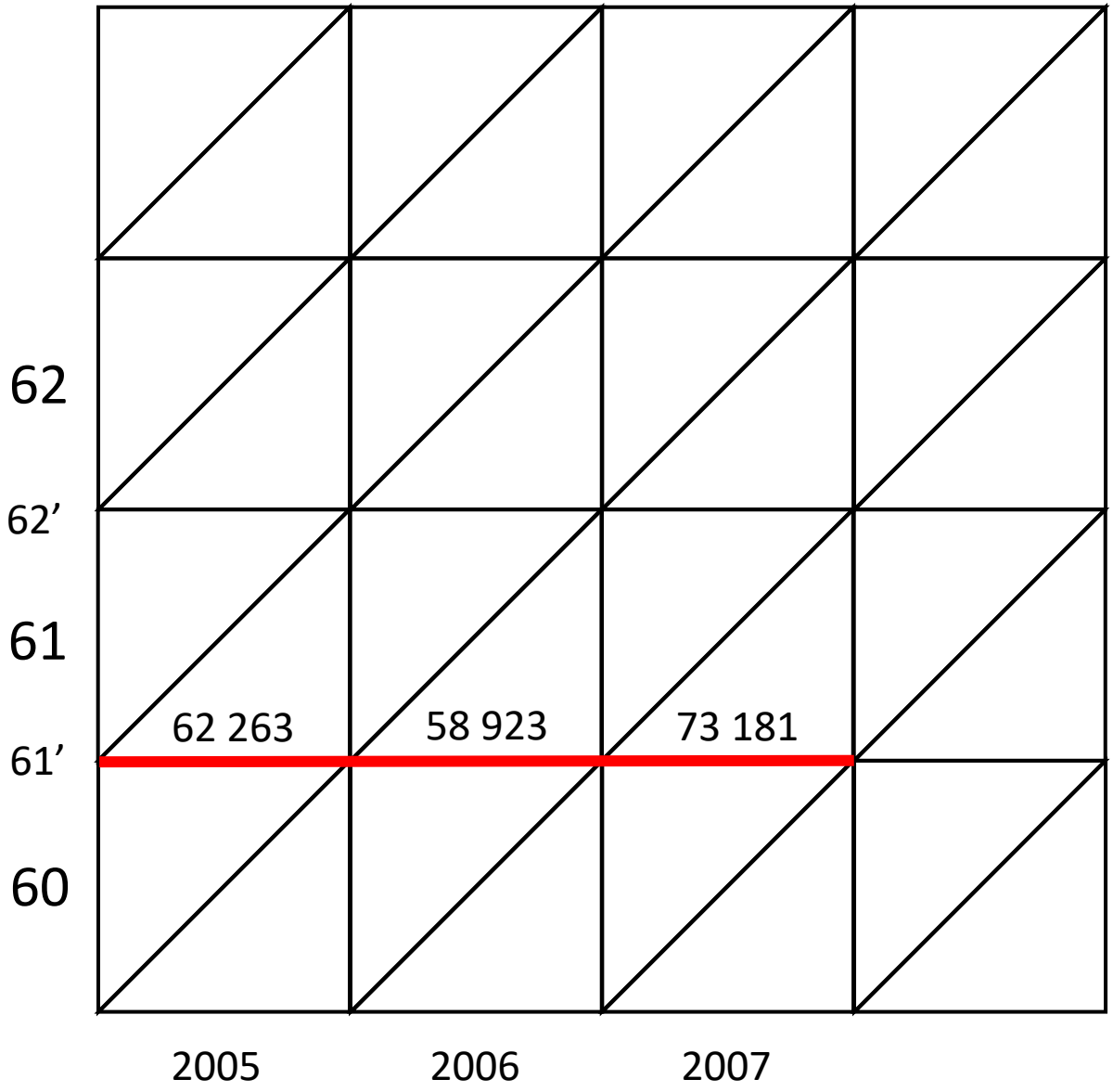
a. Draw to the Lexis diagram population of males at ages 20, 21, 22 and 23 years to the date 1. 1. 2014.



b. Draw to the Lexis diagram population of females at ages 20, 21, 22 and 23 years to the date 1. 7. 2014.

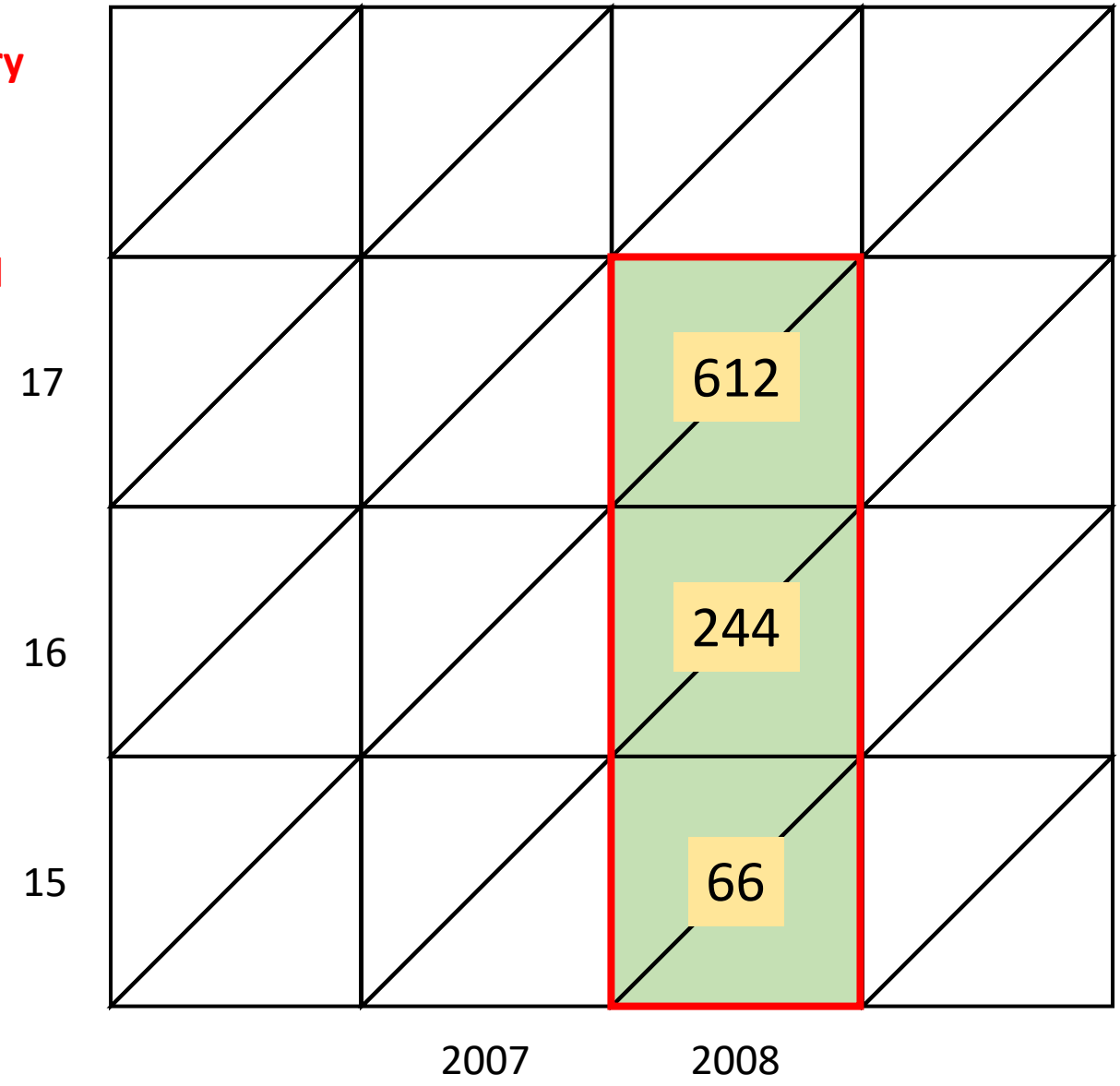


c. Draw to the Lexis diagram population living at exact age 61 in years 2005, 2006 and 2007.

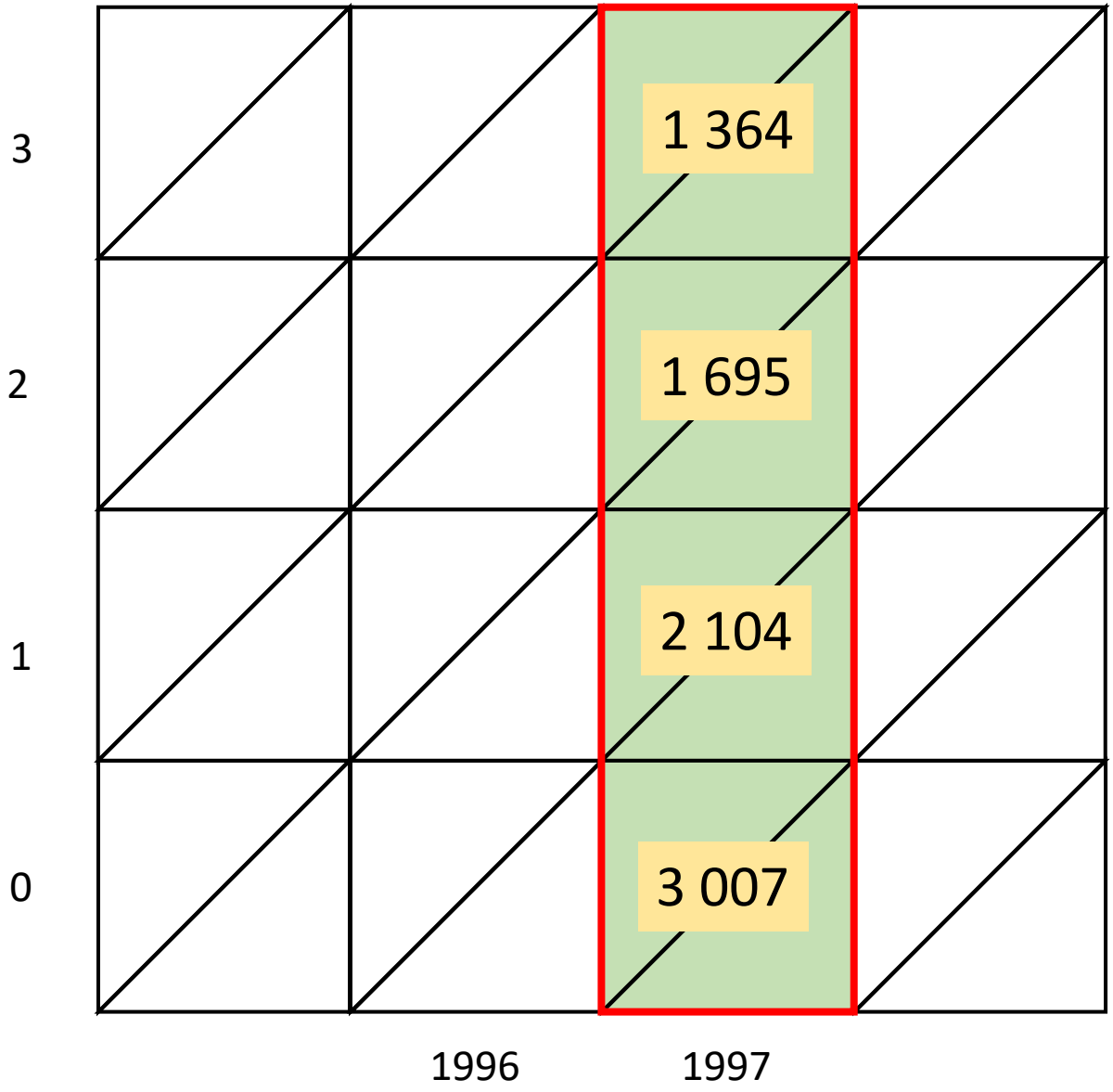


d. Draw to the Lexis diagram total number of births by the age of mother (ages 15, 16 and 17) in 2008.

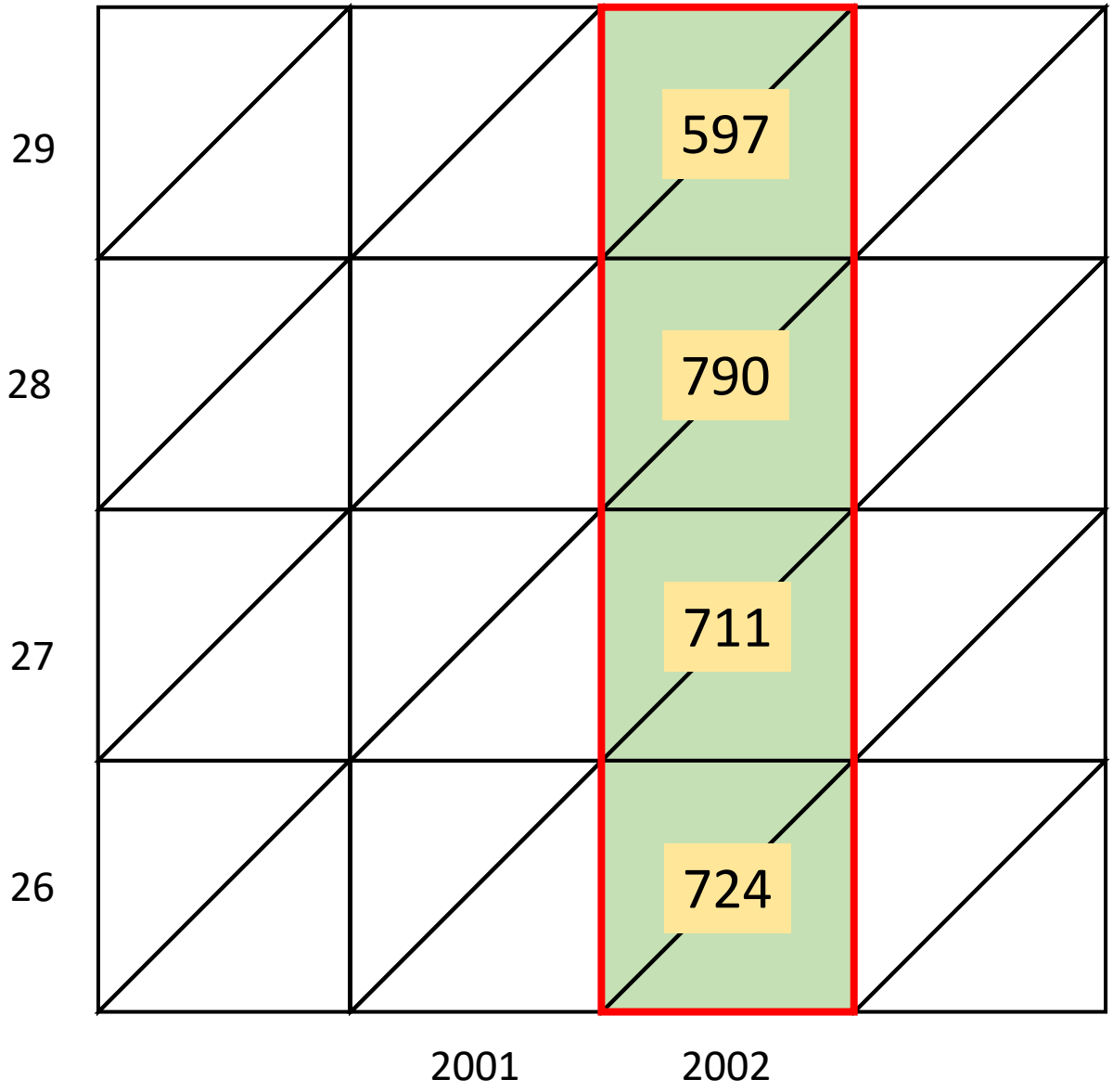
3rd primary sets group the events by the age completed



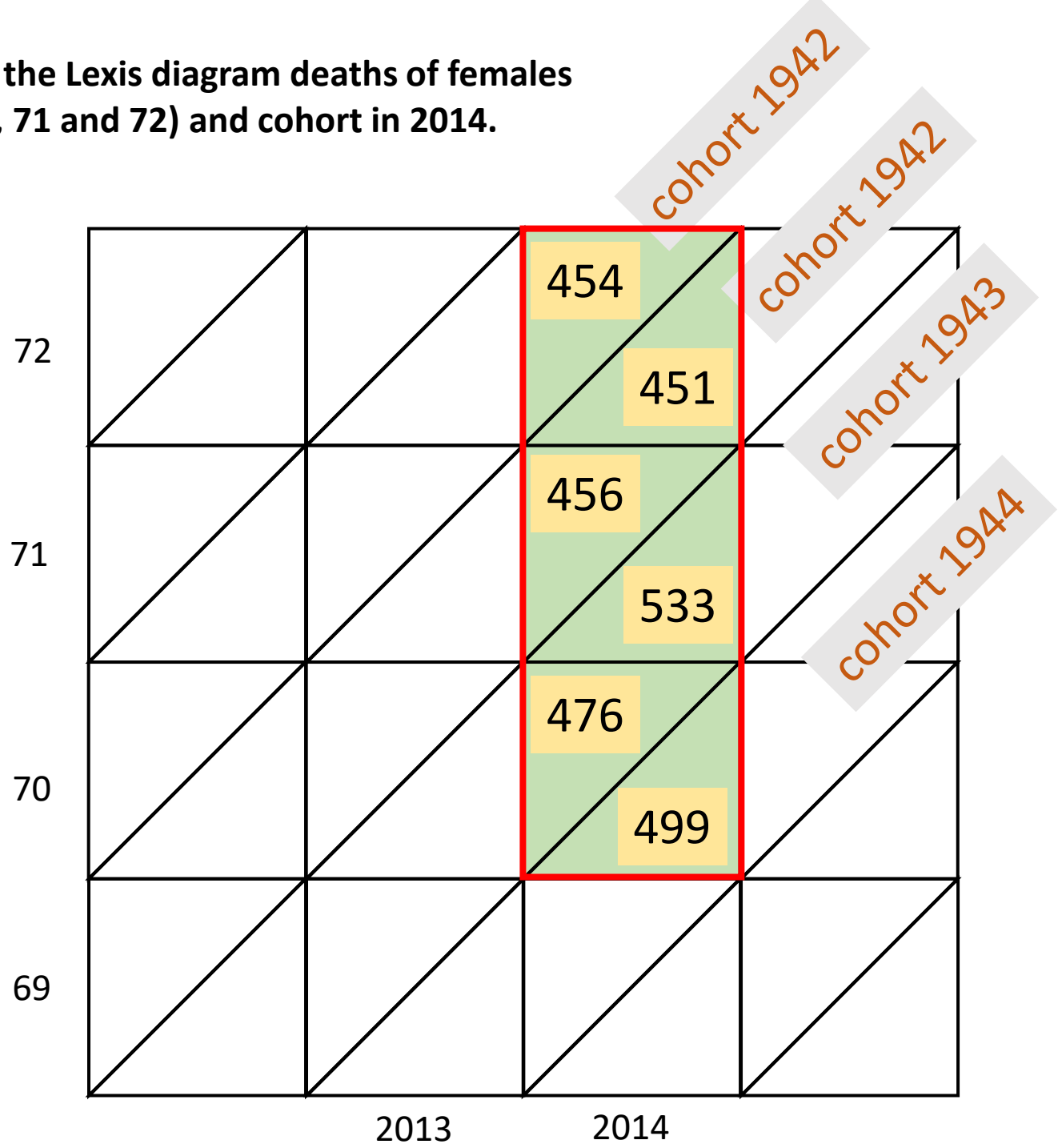
e. Draw to the Lexis diagram number of marriages of divorced men by the time elapsed since the divorce (1, 2 and 3 years) in 1997.



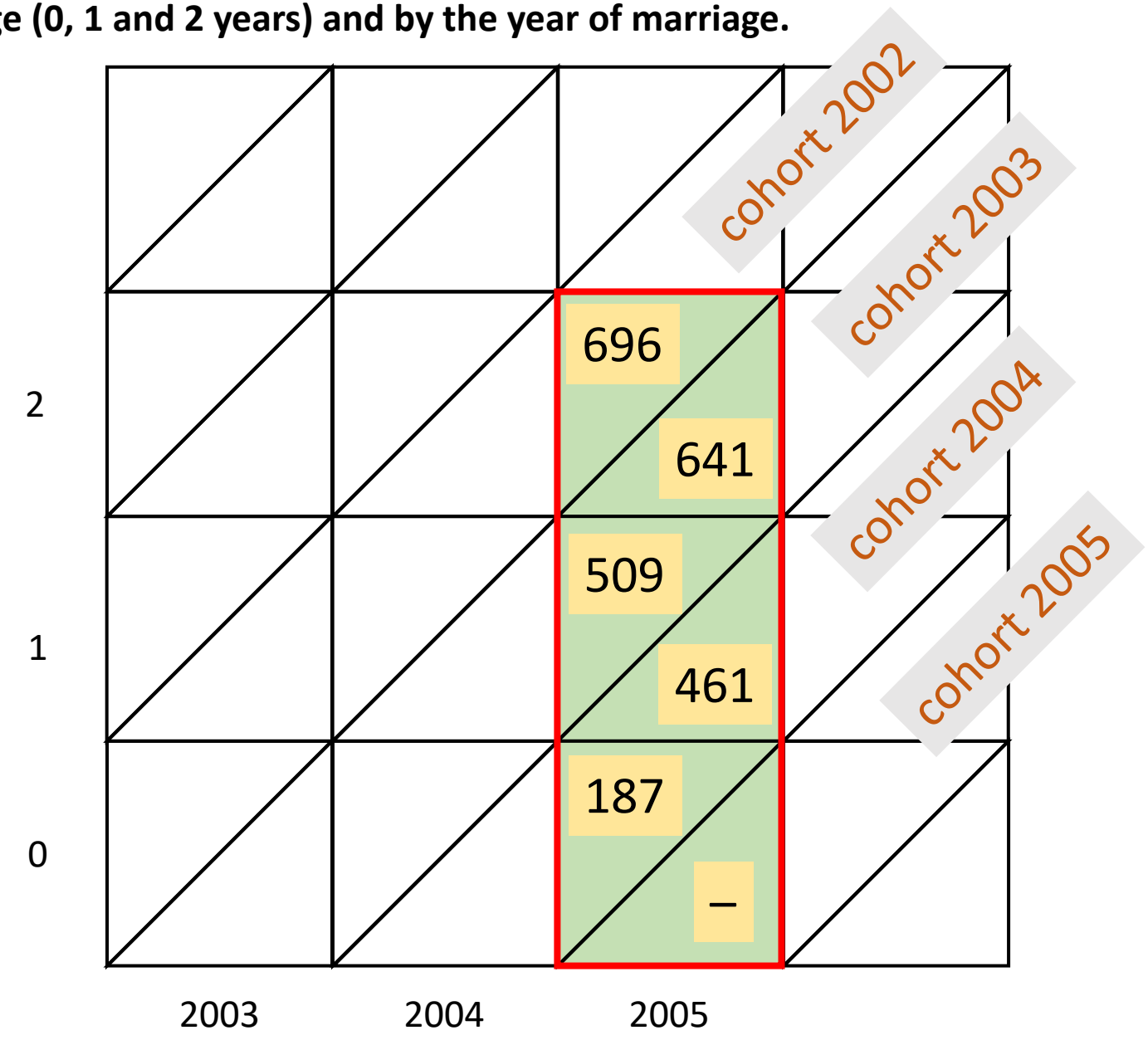
f. Draw to the Lexis diagram number of marriages of males with university level of education by age (ages 26, 27, 28 and 29) in 2002.



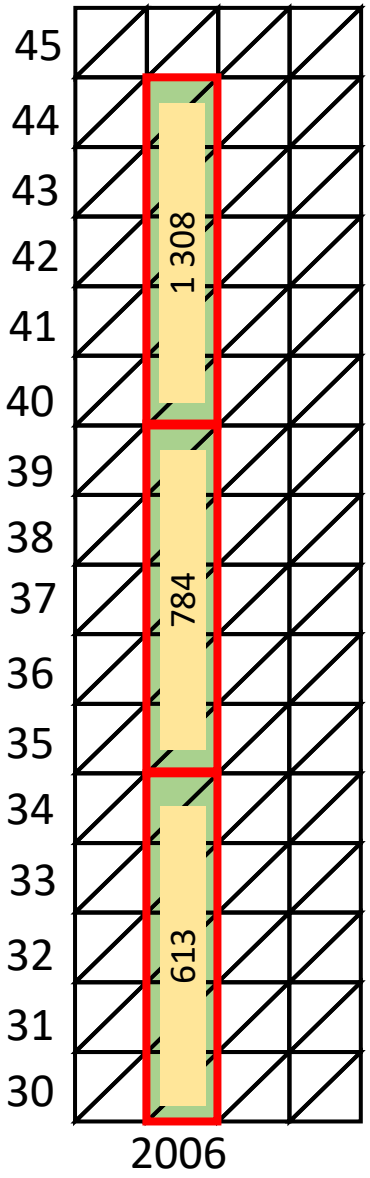
g. Draw to the Lexis diagram deaths of females by age (70, 71 and 72) and cohort in 2014.



h. Draw to the Lexis diagram number of divorces in 2005 by the length of duration of marriage (0, 1 and 2 years) and by the year of marriage.



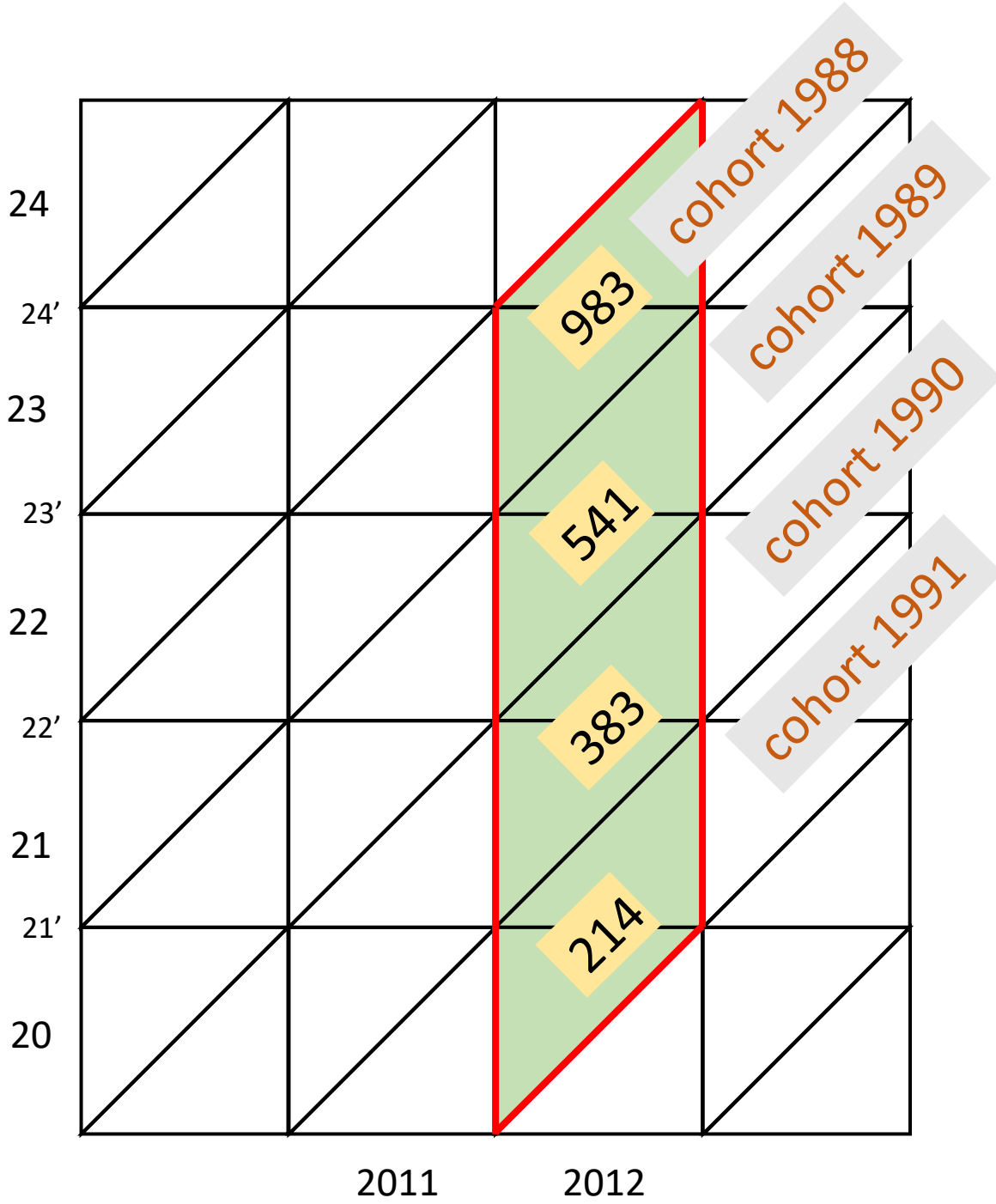
i. Draw to the Lexis diagram deaths by 5-year age groups (30–34, 35–39, 40–44) in 2006.



j. Draw to the Lexis diagram number of marriages of males born in 1988, 1989, 1990 and 1991 in 2012.

Hint:
Age reached = difference between the actual year and cohort (f. e: 2012-1990=22')

2nd primary sets group events by the age reached

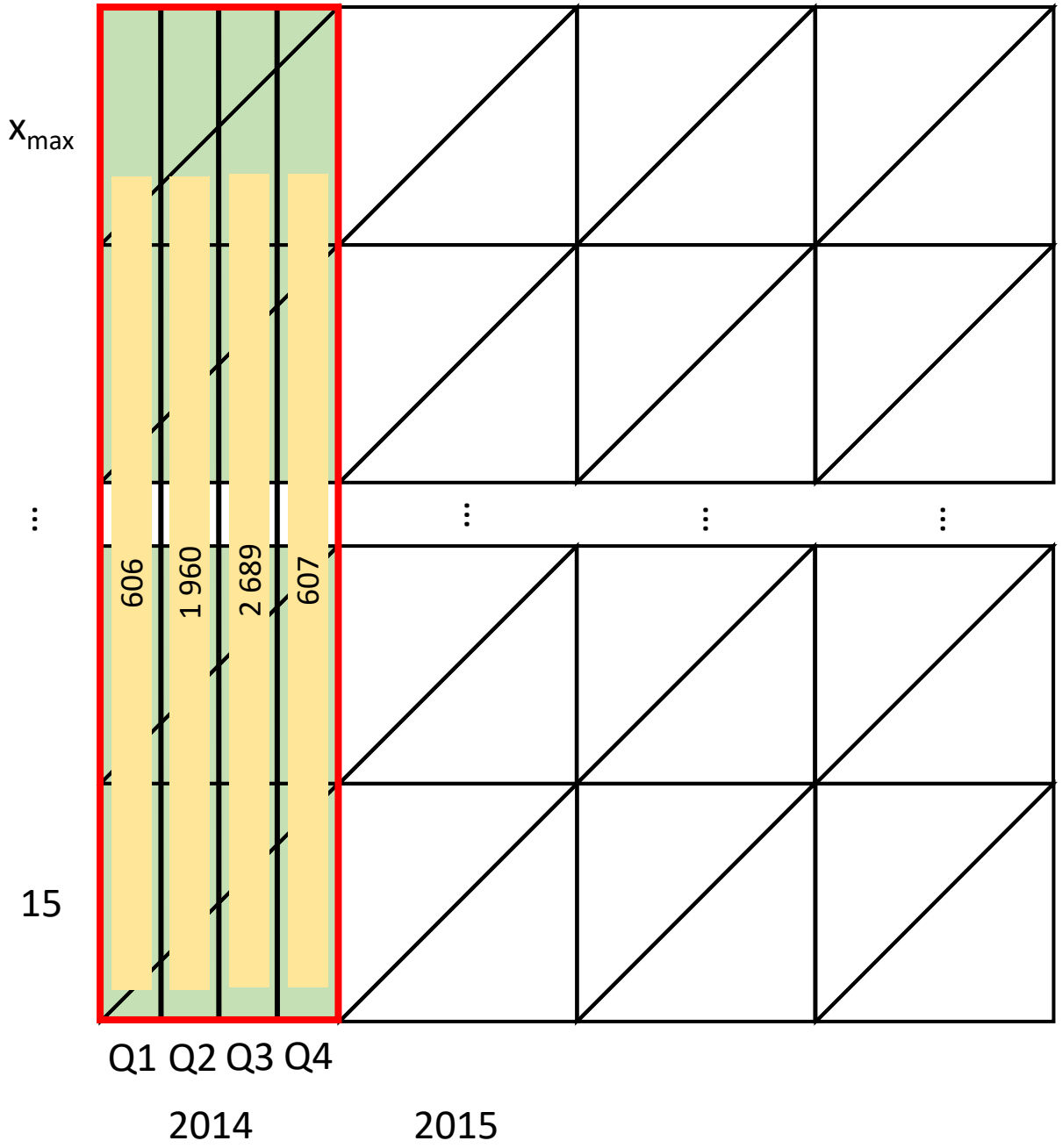


k. Draw to the Lexis diagram number of marriages of unmarried females born in 1980 by age (reached ages 29, 30, 31 and 32).

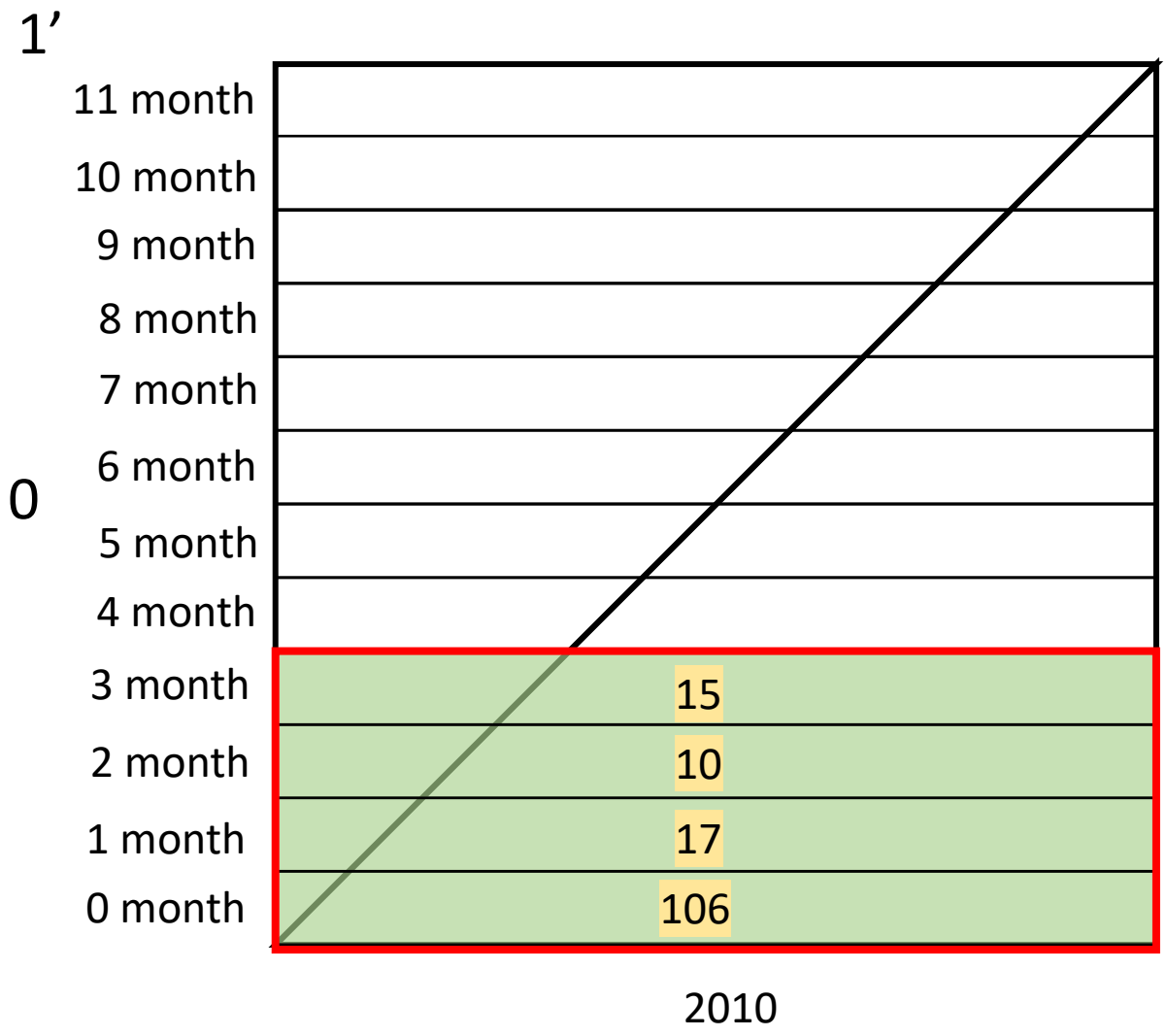
Hint:
Age reached = difference between the actual year and cohort (f. e: 2009-1980=29')

Retrospective analysis

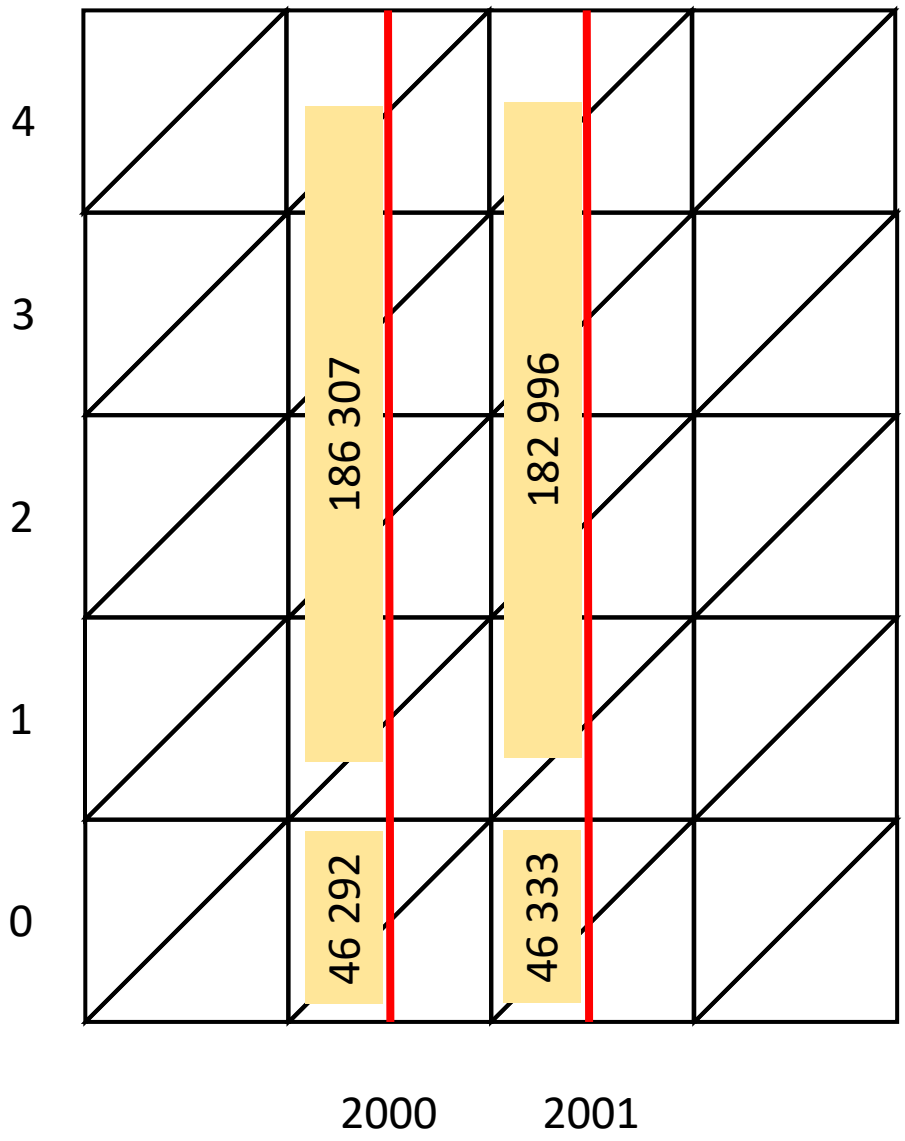
l. Draw to the Lexis diagram number of marriages of males in Prague in 2014 by quarters of 2014.



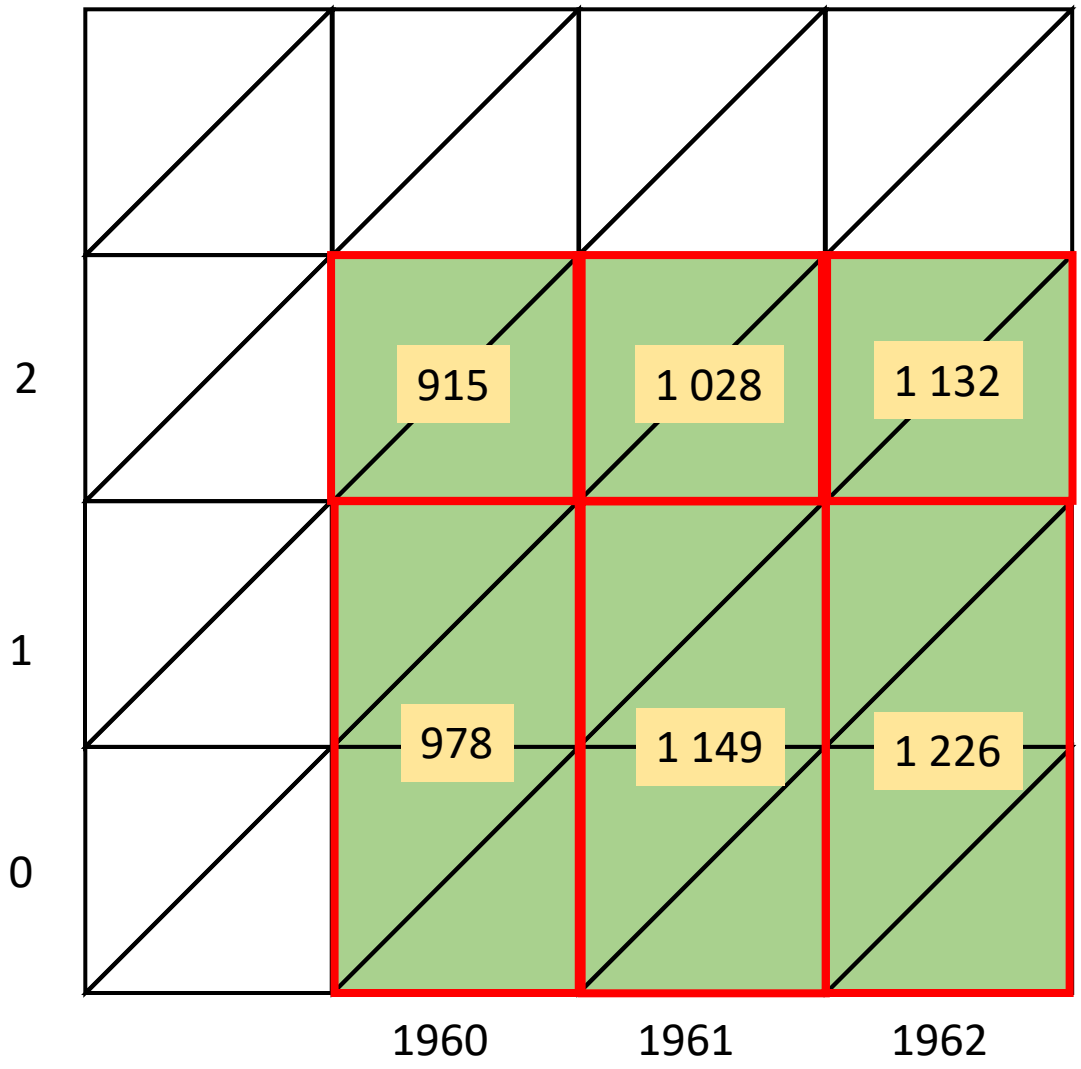
m. Draw to the Lexis diagram number of male infant deaths by age (0, 1, 2 and 3 months) in 2010.



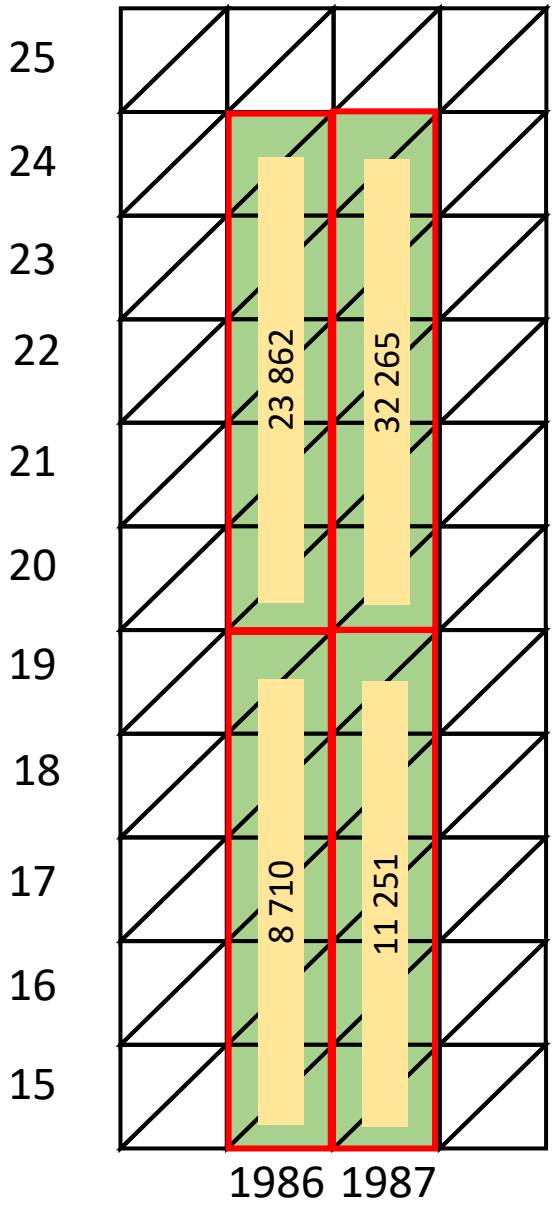
n. Draw to the Lexis diagram male population by age (0, 1–4) to 1.7.2000 and 1.7.2001.



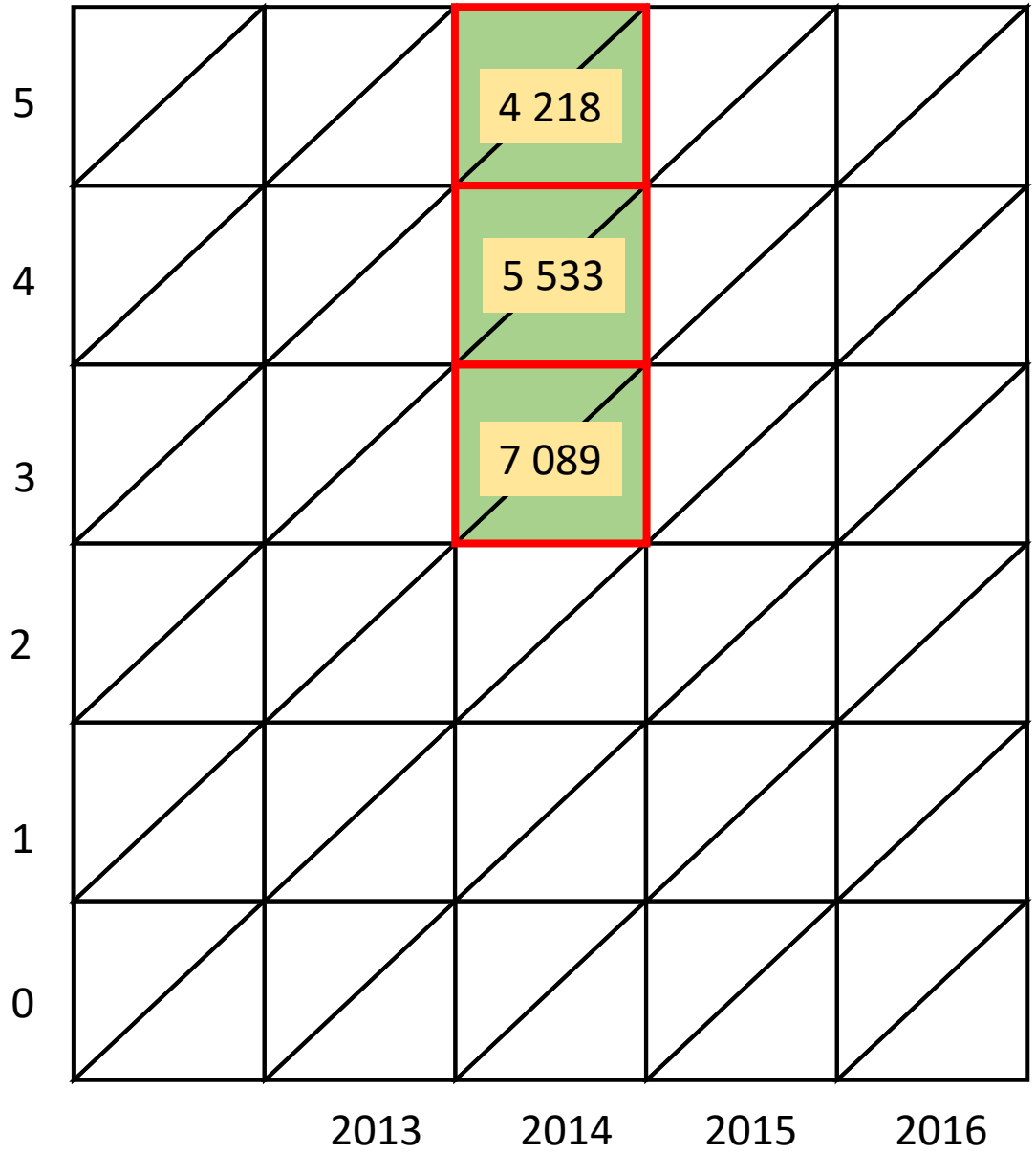
o. Draw to the Lexis diagram number of divorces by the length of marriage (0–1, 2 years) in 1960–1962.



p. Draw to the Lexis diagram number of abortions by the age of female (15–19, 20–24) in 1986 and 1987.

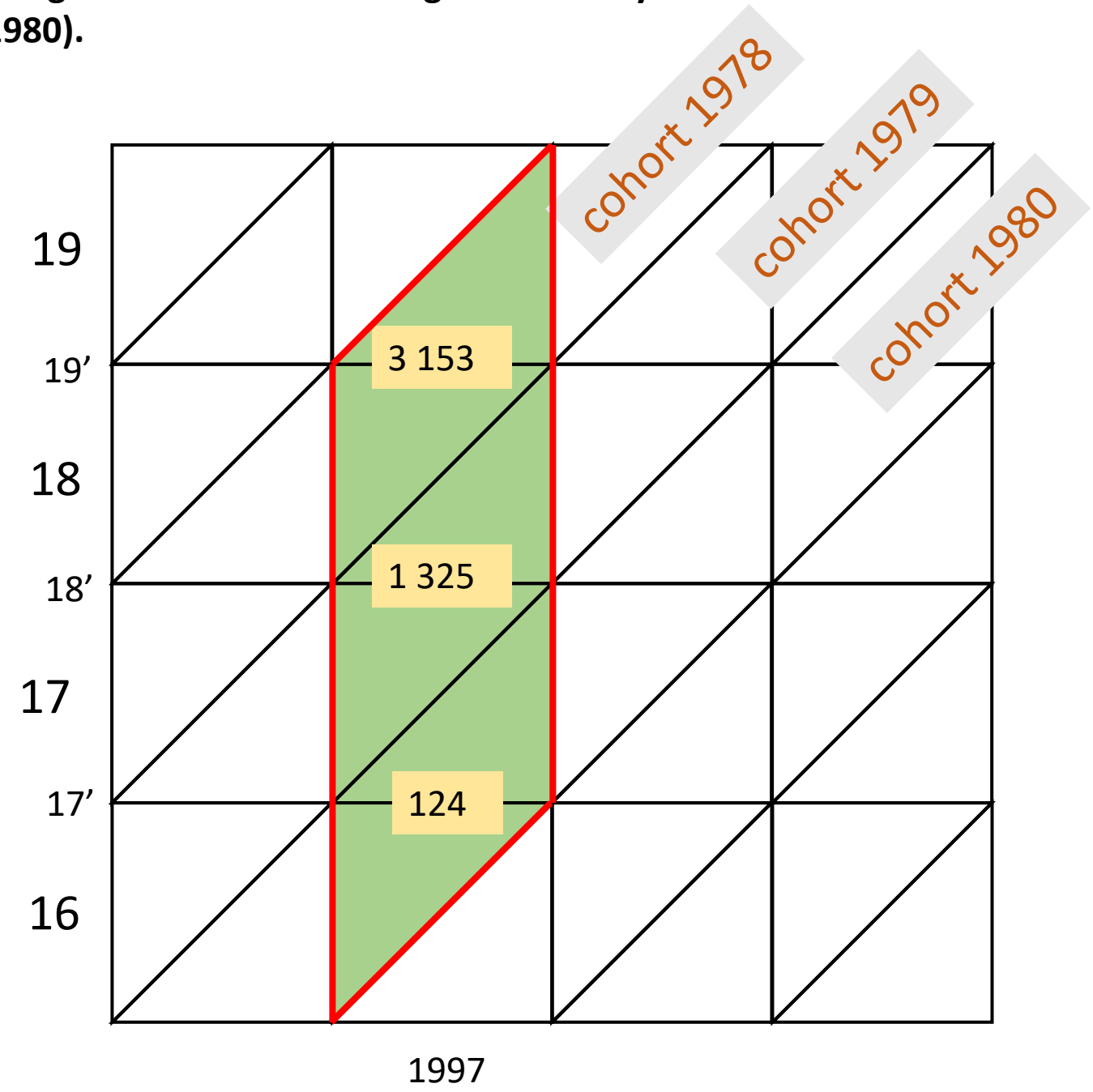


q. Draw to the Lexis diagram number of births in the current marriage by the time elapsed since the marriage of parents (3, 4 and 5 years) in 2014.

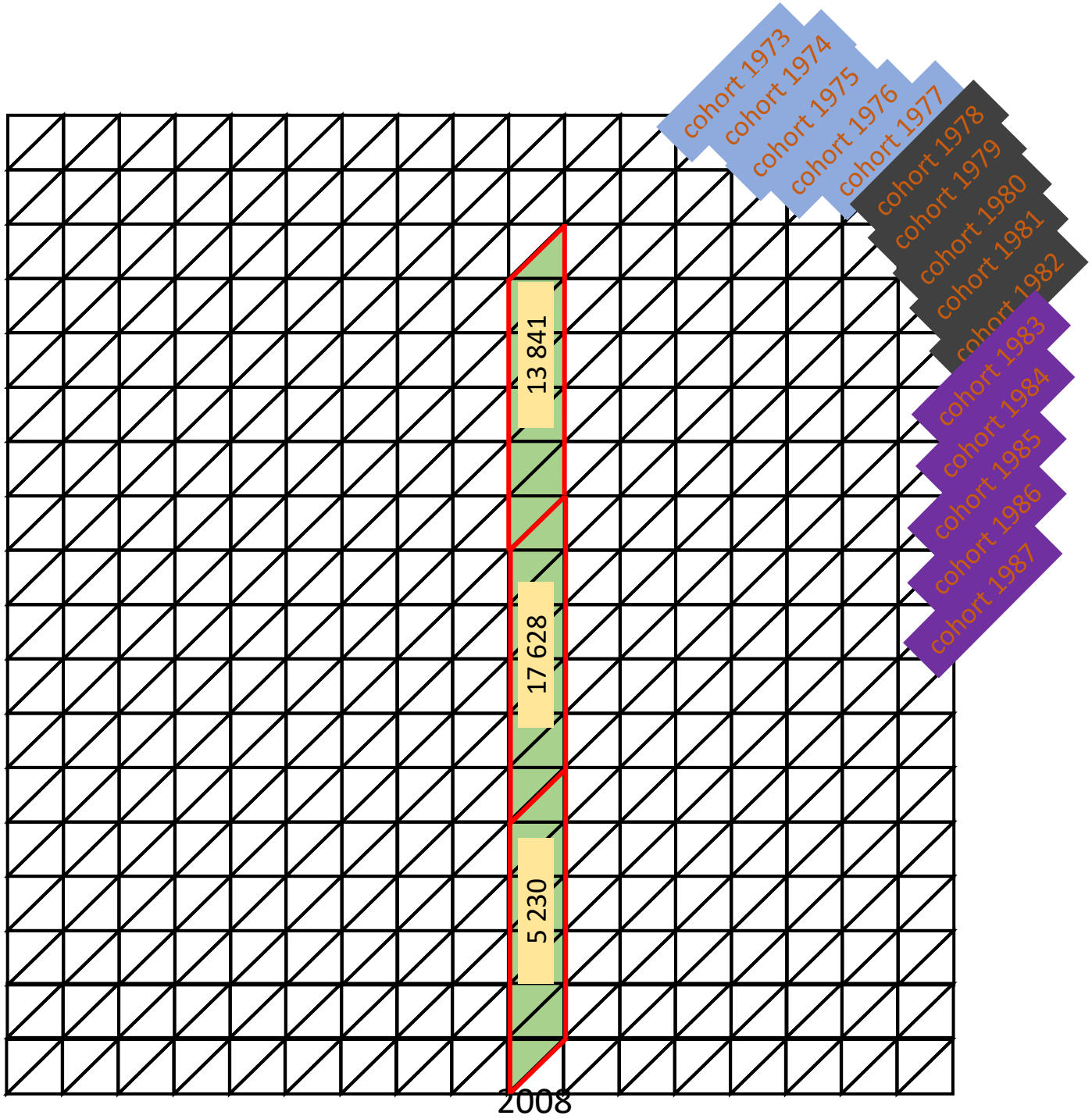


r. Draw to the Lexis diagram number of marriages in 1997 by the birth cohort of a bride (1978, 1979, 1980).

Deduce **reached age** of bride for a given cohort and period (calender time): 1997-1978=19’



s. Draw to the Lexis diagram number of marriages in 2008 by the birth cohort of the groom (1973–1977, 1978–1982 and 1983–1987).



t. Draw to the Lexis diagram first births by the age of mother (20–24, 25–29) in 1995.