Biology 4605 / 7220   Name _____Key_____
Quiz #3b   24 September 2003

1. Construct both cumulative frequency distributions from the following frequency distribution of ages of mothers of students in the quant. course in 1998.
  T = age in years. n = number of students. $F(T= k)$ is the frequency with which the quantity T is equal to the fixed value k, where k is the midpoint of each class.

1998

Age	k	$F(T= k)$	$F(T\leq k)$	$F(T\leq k)/n$	$F(T= k)$ in 2003
15-20	17.5	11	_11___	_11/55_	2
21-25	23.5	19	_30___	_30/55_	7
26-30	28.5	18	_48___	_48/55_	12
31-35	33.5	7	_55___	_55/55_	4
36-40	38.5	0	_55___	_55/55_	2
41-45	43.5	0	_55___	_55/55_	0

2. Identify two differences between the distribution in 1998 and 2003.

Average: average age lower in 1998
Dispersion: dispersion in age less in 2003 (nearly half in one age group)
Quantiles: smaller percentage under age 21 in 2003 (2/27)
                        than 1998 (11/55)

3. Identify whether the following are Type I or Type II errors by circling (or underlining) the correct type.

a. A drug company fails to control for placebo effects and concludes
                                        that a new drug cures the common cold   _I_ II

b. An agency mistakenly concludes that low level jet training has no
                                        environmental impact.   I _II_

c   By mistake an aquaculture researcher adds the same food to treatment and control groups, then concludes that the food assigned to the treatment group increases growth.

I   II