

1. Fourteen subjects participated in an experiment to compare 2 methods of relieving stress. Seven subjects were assigned randomly to one method, the remaining subjects were assigned to the other method. Reduction in stress (ΔS) was measured for each subject. Define the explanatory variable and assign it a symbol. [1]

Write a general linear model to examine whether the 2 methods differ in effectiveness. [3]

Beneath each term in the model show the df. [3]

2. The following table shows the observed or projected number of people alive at ages 20 through 60, from a cohort of 100,000 people born in decades from 1920 to the present (data from Stats Canada, updated 12 July 2007).

Decade of Birth	Number alive at each age, out of 100,000				
	age 20	age 30	age 40	age 50	age 60
1920-29	83669	80437	76798	71788	63328
1930-39	87886	85337	82125	77390	68643
1940-49	91758	89885	87480	83094	74187
1950-59	94831	93626	91977	88312	79731
1960-69	96306	95221	93779	90422	82321
1970-79	97343	96275	94931	91756	84250
1980-89	98341	97498	96457	94093	87987
1990-99	98835	98111	97065	95005	89963
2000-04	99034	98440	97597	95768	91367

What proportion of people born in 1967 are alive today? _____ [1]

What are the odds of reaching age 40, for this cohort ? _____ [1]

Given your birth year, what are the odds of reaching age 40 ? _____ [1]

3. Complete the following ANOVA table, for the regression of log Odds (of reaching age 40) against birth decade. [2]

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	6.143939		547.669	6.6E-08
Residual	7		0.011218		
Total	8	6.222468			