Interpret estimated effects on the odds that party identification is Democrat instead of Republican.

TABLE 7.16 Data for Problem 7.4[a]

Males				Females			
Length (m)	Choice	Length (m)	Choice	Length (m)	Choice	Length (m)	Choice
1.30	*I*	1.80	*F*	1.24	*I*	2.56	*O*
1.32	*F*	1.85	*F*	1.30	*I*	2.67	*F*
1.32	*F*	1.93	*I*	1.45	*I*	2.72	*I*
1.40	*F*	1.93	*F*	1.45	*O*	2.79	*F*
1.42	*I*	1.98	*I*	1.55	*I*	2.84	*F*
1.42	*F*	2.03	*F*	1.60	*I*		
1.47	*I*	2.03	*F*	1.60	*I*		
1.47	*F*	2.31	*F*	1.65	*F*		
1.50	*I*	2.36	*F*	1.78	*I*		
1.52	*I*	2.46	*F*	1.78	*O*		
1.63	*I*	3.25	*O*	1.80	*I*		
1.65	*O*	3.28	*O*	1.88	*I*		
1.65	*O*	3.33	*F*	2.16	*F*		
1.65	*I*	3.56	*F*	2.26	*F*		
1.65	*F*	3.58	*F*	2.31	*F*		
1.68	*F*	3.66	*F*	2.36	*F*		
1.70	*I*	3.68	*O*	2.39	*F*		
1.73	*O*	3.71	*F*	2.41	*F*		
1.78	*F*	3.89	*F*	2.44	*F*		
1.78	*O*						

[a] *I*, invertebrates; *F*, fish; *O*, other.

7.4 For 63 alligators caught in Lake George, Florida, Table 7.16 classifies primary food choice as (fish, invertebrate, other) and shows length in meters. Alligators are called subadults if length < 1.83 meters (6 feet) and adults if length > 1.83 meters.

a. Measuring length as (adult, subadult), find a model that adequately describes effects of gender and length on food choice. Interpret the effects. For adult females, find the estimated probabilities of the food-choice categories.

b. Using only observations for which primary food choice was fish or invertebrate, find a model that adequately describes effects of gender and binary length. Compare parameter estimates and standard errors for this separate-fitting approach to those obtained with simultaneous fitting, including the other category.

c. Treating length as binary loses information. Adapt the model in part (a) to use the continuous measurements. Interpret, explaining how the estimated outcome probabilities vary with length. Find the