MATH3/4/68052 generic feedback

A1. (a) This is generally done well. Some did not write \( b(\theta) \) as a function of \( \theta \) but did so in part (b).

(b) Many got the answers right. Some differentiated \( b(\theta) \) wrt \( p \). Some got an answer for the variance that is negative valued without realising it!

(c) and (d) These are generally done well.

(e) Only a few got this right. Requires understanding of proofs.

A2. (a) This is generally done well.

(b) So many failed to write a simple data matrix! Some remembered but failed to derive weights.

(c) This is generally done well.

(d) Many got the intermediate answer right but failed to say why observed = expected and why the answer = \( X'WX \). (e) Some failed to write clearly (bad notation) or to simplify the answer.

B1. (a) and (b) These are generally done well.

(c) (i) Some failed to work out scaled deviance correctly.

(ii) This is generally done well, still some did not get it right.

(iii) Many left out the ‘15’ in calculation of variance.

B2. (a)-(d) Analysis of deviance. Some used the wrong deviance or change in deviance. Some got critical value in lower tail rather than upper tail. Some got the value and comparison right, yet got the conclusion wrong.

(e) Some failed to calculate a probability from a fitted model. Some got the variance of linear predictor wrong. Some applied it to the wrong estimate.

B3. (a) Few got this completely right. It is only a multinomial distribution.

(b) Few could do the proof. Conditional probability is so hard.

(c) (i) This is generally done well by the few who chose this question.

(ii) Some drew conclusion from a model that has been found inadequate.

(iii) Some went on to calculate change in deviance when it is already given.

Level 4/MSc only

A3. This is generally done well. Some had difficulty answering (e).

C1. This is generally done well. Some got it wrong half way in (a). Some had no idea how to do (d). There are different ways to work out a confidence interval in (e), many got one right.

C2. This question is done by very few, partly because of material taught in last lecture.