Statistics 251/551 2004: Sheet 3

 \bigstar (3.1) [20 points] Suppose X, Y, and Z are integer valued random variables. Define

$$f(x, y, z) = \mathbb{P}\{X = x \mid Y = y, Z = z\}.$$

Suppose f does not actually depend on its third argument, that is, f(x, y, z) = g(x, y) for some function g. Show that $\mathbb{P}\{X = x \mid Y = y\} = g(x, y)$.

- \bigstar (3.2) [30 points] Chang Problem 3.3.
- \bigstar (3.3) [30 points] Chang Problem 3.6.
- ★ (3.4) [50 points] Chang Problem 3.5. Hint: Listen to discussion in lecture.