STAT 400 SUMMER II 2001 (PROFESSOR GREEN)
SOLUTIONS TO PROBLEMS DUE AUGUST 14

40.

(a) 22.307
(b) 34.381
(c) 44.313
(d) 46.925
(e) 11.523
(f) 10.519

42. With probability .95, we have

$$\chi_{.975,8} \leq \frac{8S^2}{\sigma^2} \leq \chi_{.025,8}.$$

This gives the confidence interval (1.90,17.02) for σ.

44. The sample standard deviation is 1.57882, which is quite small compared to the mean, so it is at least plausible that the data come from a normal distribution. The desired upper confidence bound is 2.28856.