Stat 310 Homework 10 Solutions

2nd May 2005

7.2-2

(a) The confidence interval is $(\overline{X} - z_{\alpha/2} * \sigma/\sqrt{n}, \overline{X} + z_{\alpha/2} * \sigma/\sqrt{n})$
For 99%,
$(85 - 2.575(\sqrt{72}/\sqrt{8}), 85 + 2.575(\sqrt{72}/\sqrt{8})) = [77.272, 92.278]$
(b) For 95%
(85-1.96*3,85+1.96*3)=[79.12,90.88]
(c) For 90%
$(85 - 1.645 * 3, 85 + 1.645 * 3) = [80.065, 89.935]$
(d) For 80%
$(85 - 1.28 * 3, 85 + 1.28 * 3) = [81.154, 88.846]$