Probability and Statistics
Hints/Solutions to Assignment 7

1. $P(\sum_{i=1}^{20} X_i > 1300) = P(\bar{X} > 65) = P(\frac{\sqrt{20}(\bar{X} - 60)}{15} > 1.49) \cong P(Z > 1.49) = 0.0681$
2. Similar as Q. 1
3. Use t- distribution
4. t_{n-1}
5. $U \sim t_{m+n-2}$
6. Use F distribution
7. Use $\frac{(n-1)S^2}{\sigma^2} \sim \chi^2_{n-1}$ to get n.
8. Use Chi-square distribution.
9. Use various properties of sampling distributions.