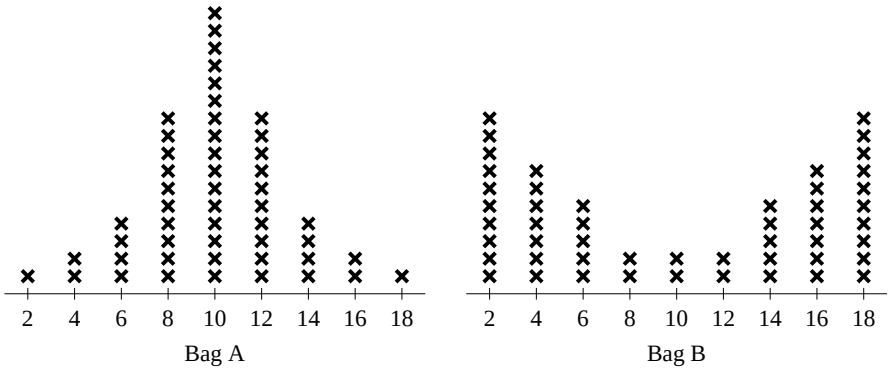
Homework Solutions
Chapter 1 – Page 67

Exercise 22

(a)



(b) The two hypotheses are
H_0 : The token is from Bag A.
H_1 : The token is from Bag B.

(c) There are several possibilities. Clearly, the test is two-sided. One good choice of decision rule is to reject H_0 if the value is \$4 or less or \$16 or more. Other choices are to use \$2 and \$18 or use \$6 and \$14. For any choice, the values must be symmetric.

(d) For my choice, $\alpha = 6/50 = 0.12$. For the other two possible choices mentioned, the values are $\alpha = 14/50 = 0.28$ and $\alpha = 2/50 = 0.04$, respectively.

(e) For my rule, $\beta = 16/50 = 0.32$.

(f) (i) My decision would be to accept H_0.
(ii) I could be making a Type II error.

(g) (i) My decision would be to reject H_0.
(ii) I could be making a Type II error.