SIGN TEST

Start

Assign positive and negative signs to the data and discard any zeros.

Let *n* be equal to the total number of signs.

Let *x* equal the number of the least frequent signs.

Is n £ 25

Yes → **Find the critical value from Table A-7. (See Back) Critical Values of the Sign Test**

No → **Convert the test statistic *x* to the test statistic:**

$$Z = \frac{(X + 0.5) - n/2}{\sqrt{n}/2}$$

Find the critical Z value from the Z Table in the usual way.

Is the Test Statistic less than or equal to Critical Value?

Yes → **Reject the Null Hypothesis.**

No → **Fail to reject the Null Hypothesis.**

SIGN TEST

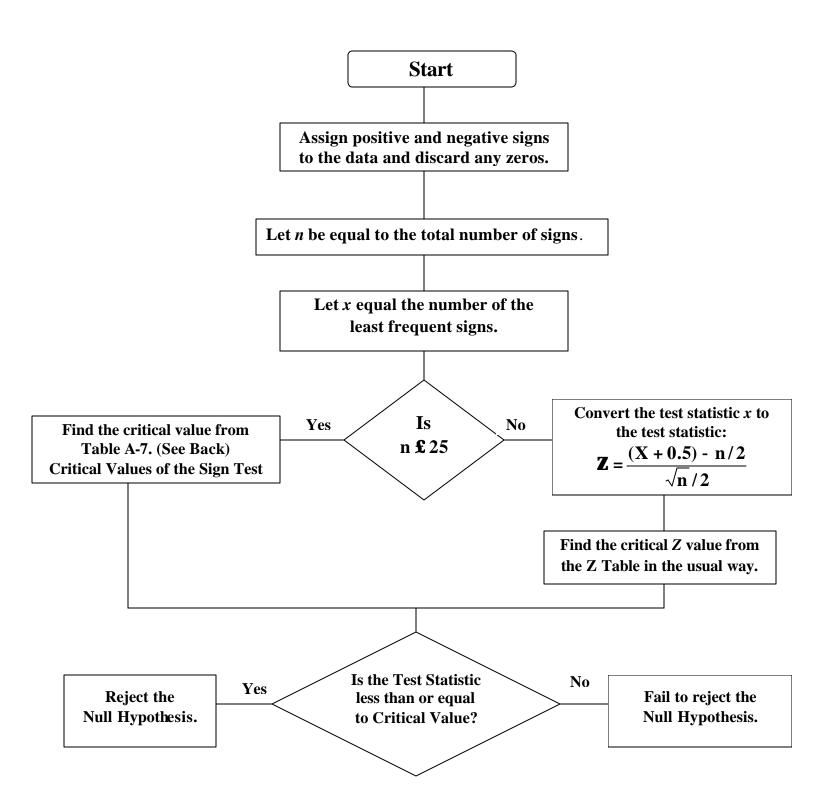|	**a**			
n	.005 (one tail) .01 (two tails)	.01 (one tail) .02 (two tails)	.025 (one tail) .05 (two tails)	.05 (one tail) .10 (two tails)

TABLE A-7
Critical Values for the Sign Test

n	.005 (one tail) / .01 (two tails)	.01 (one tail) / .02 (two tails)	.025 (one tail) / .05 (two tails)	.05 (one tail) / .10 (two tails)
1	*	*	*	*
2	*	*	*	*
3	*	*	*	*
4	*	*	*	*
5	*	*	*	0
6	*	*	0	0
7	*	0	0	0
8	0	0	0	1
9	0	0	1	1
10	0	0	1	1
11	0	1	1	2
12	1	1	2	2
13	1	1	2	3
14	1	2	2	3
15	2	2	3	3
16	2	2	3	4
17	2	3	4	4
18	3	3	4	5
19	3	4	4	5
20	3	4	5	5
21	4	4	5	6
22	4	5	5	6
23	4	5	6	7
24	5	5	6	7
25	5	6	7	7

Note: 1. * indicates that it is not possible to get a value in the critical region.

2. Reject the null hypothesis if the number of the less frequent sign (x) is less than or equal to the value in the table.

3. For values of n greater than 25, a normal approximation is used with

$$Z = \frac{(x + 0.5) - n/2}{\sqrt{n}/2}$$