

**Instructions:** Show all work. Use exact answers or appropriate rounding conventions. If you use your calculator, you can show work by saying which calculator commands you used.

1. Construct a stem-and-leaf plot using repeated stems for the data below. Describe the shape of the distribution.

74	89	93	64	67	72	70	66	85	89	81	81
71	74	82	85	63	72	81	95	84	81	80	70
69	66	60	83	85	98	84	68	90	82	69	72
87	88	80	81								

6 | 0 3 4  
 6 | 6 6 7 8 9 9  
 7 | 0 0 1 2 2 2 4 4  
 7 |  
 8 | 0 0 1 1 1 1 2 2 3 4 4  
 8 | 5 5 5 7 8 9 9  
 9 | 0 3  
 9 | 5 8

roughly symmetrical  
 bimodal perhaps because of  
 the large gap between 74  
 and 80

2. Determine the mean and standard deviation for the sample of exam scores in problem #1.

1-VarStats

$$\bar{X} = 78.275 \approx 78.3$$

$$S_x = 9.407$$

3. Find the median, and the 10% trimmed mean.

$$\tilde{X} = 81$$

$n=40$   $10\% * 40 = 4$   
 remove 60, 63, 64, 66  
 90, 93, 95, 98

$$\bar{X}_{tr(0.1)} = 78.2$$

4. Construct a boxplot for the same data.

Min = 60  
 $Q_1 = 70$   
 Med = 81  
 $Q_3 = 85$   
 Max = 98

(no outliers)

