Stat 151.003 Fall 2006 (Kozdron)
Modified Solutions to Assignment #2

1. (b) We calculate the standard deviations as follows:

- Stock I:
$$s^2 = \frac{1}{10}\left[(4-7)^2 + (5-7)^2 + \cdots + (10-7)^2\right] = \boxed{2.48},$$
- Stock II:
$$s^2 = \frac{1}{10}\left[(4-7)^2 + (10-7)^2 + \cdots + (13-7)^2\right] = \boxed{3.77},$$
- Stock III:
$$s^2 = \frac{1}{10}\left[(5-7)^2 + (8-7)^2 + \cdots + (-3-7)^2\right] = \boxed{5.96}.$$

2 points for showing your work, 1 point for answers only

2. (c) We find the mean for this data set is

$$\bar{X} = \frac{1}{47}\left(12 + 14 + 18 + \cdots + 2(95) + 97 + 98\right) = \frac{3304}{47} = \boxed{70.30}.$$

The variance is given by

$$S^2 = \frac{1}{47}\left[(12-70.3)^2 + (14-70.3)^2 + \cdots + (98.70.3)^2\right] = \boxed{595.18}$$

and so the standard deviation is

$$S = \sqrt{S^2} = \sqrt{595.18} = \boxed{24.40}.$$

3 points for showing your work, 2 points for answers only