3A Outliers

1. The blood glucose level of 30 females is recorded. The results, in mmol/litre, are shown below:

1.7	2.2	2.3	2.3	2.5	2.7
3.1	3.2	3.6	3.7	3.7	3.7
3.8	3.8	3.8	3.8	3.9	3.9
3.9	4.0	4.0	4.0	4.0	4.4
4.5	4.6	4.7	4.8	5.0	5.1

An outlier is an observation that falls either $1.5 \times IQR$ above Q_3, or $1.5 \times IQR$ below Q_1. Find any outliers.

2. The lengths, in cm, of 12 giant African land snails are given below:

$$17 \quad 18 \quad 18 \quad 19 \quad 20 \quad 20$$

$$20 \quad 20 \quad 21 \quad 23 \quad 24 \quad 32$$

a) Calculate the mean and standard deviation, given that $\sum x = 252$ and $\sum x^2 = 5468$.

b) An outlier is an observation which lies ± 2 standard deviations from the mean. Identify any outliers for this data.