

### Tutorial Sheet 3 (Corrections)

There are few typing mistakes/missing data in Q 11, 12 and 13 of Tutorial 3. The revised questions are as follows:

11. An oil company claims that the mean value of sulfur content in diesel fuel is at most .15. To check this claim, the sulfur contents of 40 randomly chosen samples were determined; the resulting sample mean and sample standard deviation were .162 and .040. Using the 5 percent level of significance, can we conclude that the company's claims are invalid?
12. A manufacturer of capacitors claims that the breakdown voltage of these capacitors has a mean value of at least 100 V. A test of 12 of these capacitors yielded the following breakdown voltages:  
96, 98, 105, 92, 111, 114, 99, 103, 95, 101, 106, 97  
Do these results prove the manufacturer's claim? Do they disprove them? Use  $\alpha = 0.05$ .
15. A wine shopkeeper claim that the number of bottles of a particular whisky sold everyday follows normal distribution with mean 9. The number of bottles of a particular whisky sold by an offlicence one week is given below:  
9, 10, 8, 12, 13, 10, 9.  
Test at the 0.01 level of significance whether the shopkeeper's claim is true or not.