

(b) Make a stemplot to check for outliers or strong skewness in the data.

The stemplot is given below.

| | | |
|-----|----|-----|
| 2 | 11 | 12 |
| 2 | 11 | |
| 3 | 12 | 2 |
| 5 | 12 | 89 |
| 7 | 13 | 22 |
| (1) | 13 | 7 |
| 7 | 14 | 011 |
| 4 | 14 | 5 |
| 3 | 15 | 24 |
| 1 | 15 | |
| 1 | 16 | 0 |

(c) Compute the test statistic, and find the corresponding P -value.

$$t = \frac{13.573 - 12}{1.426/\sqrt{15}} = 4.272$$

$$d.f. = 15 - 1 = 14$$

$$P\text{-value} < 2(0.0005) = 0.001$$

(d) Explain in simple language how to interpret the P -value found above.

If the true mean oxygen uptake is 12 ml, then there is less than a 0.1% chance that the sample mean would take a value that is greater than or equal to 13.573 ml or less than or equal to 10.427 ml.