|  |  |  |  |
| --- | --- | --- | --- |
| Name:  Class: | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | Date:\_\_\_\_\_\_\_\_\_ |
|  | **Year 11 Essential Mathematics Unit 2**  SCORE:  /24    **Statistical Investigation 2020**  **Are Males better drivers?** | | |
| **Total Time:** | 2 lessons in class 1 week at home |  | |
| **Weighting:** | 12.5% |
| **Equipment:** | To be provided by the student: Pen, pencil, ruler, scientific calculator, Interactive notebook | | |

**Are Males better drivers?**

A student in class has suggested that males are better drivers than females. He went on to say that to be a good driver you need fast reflexes. This prompted some discussion with other students in the class saying the ability to concentrate was also very important.

The following data was collected from the 2013 Census at School survey. The data is a randomly generated sample of 60 students in years 11 and 12 who provided information on their reaction time using their dominant hand and their concentration activity.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Female | | |  | Male | | |
|  | **Reaction Time (sec)**  **(dominant hand)** | **Concentration**  **Activity (secs)** |  |  | **Reaction Time (sec)**  **(dominant hand)** | **Concentration**  **Activity (secs)** |
| 1 | 0.03 | 53 |  | 1 | 0.34 | 36 |
| 2 | 0.38 | 65 |  | 2 | 0.50 | 62 |
| 3 | 0.39 | 36 |  | 3 | 0.34 | 39 |
| 4 | 0.39 | 25 |  | 4 | 0.32 | 44 |
| 5 | 0.45 | 35 |  | 5 | 0.36 | 44 |
| 6 | 0.31 | 24 |  | 6 | 0.37 | 48 |
| 7 | 0.42 | 46 |  | 7 | 0.36 | 49 |
| 8 | 0.39 | 16 |  | 8 | 0.30 | 65 |
| 9 | 0.56 | 59 |  | 9 | 0.36 | 39 |
| 10 | 0.39 | 44 |  | 10 | 0.30 | 44 |
| 11 | 0.38 | 42 |  | 11 | 0.46 | 34 |
| 12 | 0.56 | 44 |  | 12 | 0.35 | 36 |
| 13 | 0.37 | 59 |  | 13 | 0.30 | 32 |
| 14 | 0.44 | 36 |  | 14 | 0.33 | 56 |
| 15 | 0.32 | 55 |  | 15 | 2.61 | 59 |
| 16 | 0.31 | 47 |  | 16 | 0.36 | 36 |
| 17 | 0.35 | 48 |  | 17 | 0.45 | 49 |
| 18 | 18.62 | 69 |  | 18 | 0.30 | 36 |
| 19 | 0.36 | 46 |  | 19 | 0.36 | 48 |
| 20 | 0.34 | 45 |  | 20 | 0.41 | 37 |
| 21 | 0.94 | 52 |  | 21 | 0.36 | 39 |
| 22 | 0.32 | 26 |  | 22 | 0.36 | 35 |
| 23 | 0.35 | 33 |  | 23 | 0.44 | 46 |
| 24 | 0.37 | 46 |  | 24 | 0.38 | 61 |
| 25 | 0.46 | 55 |  | 25 | 0.39 | 36 |
| 26 | 0.45 | 46 |  | 26 | 0.36 | 46 |
| 27 | 0.34 | 39 |  | 27 | 0.34 | 33 |
| 28 | 0.32 | 27 |  | 28 | 0.15 | 36 |
| 29 | 0.36 | 36 |  | 29 | 0.36 | 49 |
| 30 | 0.67 | 77 |  | 30 | 0.26 | No Data |

Investigate the statements made above and produce a report that justifies your answer to the question ‘Are Males better drivers?’