Statistical Analysis Review (YAY!)

One day Jonny was eating some Oreos and thought to himself “wow, these are some great Oreos”. When he told his mother how much he enjoyed them she laughed at him and said they were not Oreos. Jonny was angry at his mom for tricking him. Once he realized that he was dumb enough to not realize the cookies said “Kroger Knock off Oreos” on the top of them, he decided to turn this into a statistical investigation. He took the following measurements of Oreos and the cheap imposters.

|  |  |  |
| --- | --- | --- |
|  | Diameter in cm | |
|  | Oreos | Kroger Knock off Oreos |
| 1 | 9.3 | 9.0 |
| 2 | 9.2 | 9.1 |
| 3 | 9.3 | 9.5 |
| 4 | 9.1 | 9.1 |
| 5 | 9.4 | 8.9 |
| 6 | 9.3 | 9.0 |
| 7 | 9.3 | 9.0 |
| Mean |  |  |
| Standard Deviation |  |  |

Is there a difference between the diameter of Oreos and the Kroger Knock off Oreos? (Hint: this is a t-test so you should provide your p value in your explanation)

|  |  |  |
| --- | --- | --- |
|  | Height in cm | |
|  | Oreos | Kroger Knock off Oreos |
| 1 | 1.5 | 1.7 |
| 2 | 1.6 | 1.6 |
| 3 | 1.5 | 1.6 |
| 4 | 1.5 | 1.6 |
| 5 | 1.4 | 1.7 |
| 6 | 1.5 | 1.8 |
| 7 | 1.4 | 2.5 |
| Mean |  |  |
| Standard Deviation |  |  |

Is there a difference in the height of the two brands?

Is there an outlier in the height data? If so, take that out of your data and then see if there is a difference between the two brands.

What is your overall conclusion about the two brands of Oreos? Which one is better? What other measurements could improve Jonny’s investigation?