1. The 2008 Olympic Games were full of controversy about new swimsuits possibly providing unfair advantages to some swimmers, leading to new international rules that came into effect January 1, 2010 regarding swimsuit coverage and material. Can a certain swimsuit really make a swimmer faster? A study tested whether wearing wetsuits influences swimming velocity. Twelve competitive swimmers and triathletes swam 1500m at maximum speed twice, once wearing a wetsuit and once wearing a regular bathing suit. The order of the trials was randomized. Each time, the maximum velocity in meters/second of the swimmer was recorded. The results are displayed below.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Swimmer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Wetsuit | 1.57 | 1.47 | 1.42 | 1.35 | 1.22 | 1.75 | 1.64 | 1.57 | 1.56 | 1.53 | 1.49 | 1.51 |
| No Wetsuit | 1.49 | 1.37 | 1.35 | 1.27 | 1.12 | 1.64 | 1.59 | 1.52 | 1.50 | 1.45 | 1.44 | 1.41 |
| Diff. |  |  |  |  |  |  |  |  |  |  |  |  |

1. Does this data provide evidence that competitive swimmers tend to be faster with wetsuits?
2. Provide a statement that estimates how much of an increase in speed the wetsuit provides.