**Problem 3**

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| **Value** | **Part A** | **Part B** |
| Ackermann Steer Angle (rad) | 0.0300 | 0.0300 |
| Lateral Acceleration (m/s^2) | 3.2783 | 3.2783 |
| Yaw Rate (rad/s) | 0.1467 | 0.1467 |
| Front Lateral Force (N) | 29418.2189 | 29418.2189 |
| Rear Lateral Force (N) | 34489 | 34489 |
| Front Slip Angle (rad) | 0.0449 | 0.0475 |
| Rear Slip Angle (rad) | 0.0429 | 0.0461 |
| Total Yaw Moment (N-m) | 17624.7625 | 17624.7625 |
| Vehicle Sideslip Angle (rad) | -0.0309 | -0.0341 |
| Steer Angle (rad) | 0.0319 | 0.0315 |

The above table compares various parameters with and without load transfer (i.e., Part A vs Part B). It can be observed that the front as well as rear slip angles increase upon considering the load transfer, since the normal loads acting on inner and outer tires change due to load transfer . Consequently, the vehicle slip angle also increases in negative direction. Finally, it is important to note that the steer angle has decreased after considering load transfer. However, in both the cases (with and without load transfer), the actual steer angle is less than the Ackermann steer angle. This implies that the vehicle is understeering in both the cases. However, the fact that the steer angle is reduced from Part A to Part B implies that the vehicle is understeering lesser with load transfer (Part B) than it was without load transfer (Part A).