

Animation Worksheet: Power Flow Simpson Geartrain and Overdrive

Name: _____ **Date:** _____

1. The Simpson geartrain plus overdrive is a compound planetary gear system commonly used in _____ automatic transmissions.
2. The standard Simpson gear set consists of two interconnected planetary gear sets that share a common _____.
3. To achieve a fourth overdrive gear, the system adds an additional _____ planetary gear set.
4. When shifting into first gear, the forward clutch is applied and the _____ clutch is holding.
5. First gear provides a compound reduction with a specific gear ratio of _____.
6. When shifting into second gear, both the forward clutch and the _____ are applied.
7. Second gear alters the output to a gear ratio of _____.
8. In third gear, the forward clutch and high-reverse clutch lock the front planetary set so that the entire geartrain turns at a _____ ratio.
9. During fourth gear, the overdrive band, forward clutch, and high-reverse clutch are all applied to create an efficient highway ratio of _____.
10. When shifted into reverse, the _____ holds the rear carrier stationary, helping to produce a 2.2:1 gear ratio.