

Limits and Ranges

- ◆ Tach can't be read to closer than 100-200 RPM
 - ◆ The needle wiggles
- ◆ Engine has governors and only runs between 800 and 2500 RPM
- ◆ With the 1.4 factor, this range of tach readings:

```
>>> list(range(1100, 3500, 200))  
[1100, 1300, 1500, 1700, 1900, 2100, 2300, 2500,  
2700, 2900, 3100, 3300]
```


Map Tach Values

- ◆ The “Map” Concept:

```
def eng2(r):  
    return 0.7724*r**1.0134
```

- ◆ Apply a function to map ALL values in a given sequence
- ◆ Use **eng2()** to map all values in range(1000, 3200, 200)

```
>>> list(map(eng2, range(1100, 3500, 200)))  
[933.2319788474695, 1105.3821783375965,  
1277.8890449104067, 1450.7053144667843,  
1623.7948673573321, 1797.1291903589386,  
1970.6851959771182, 2144.4438041503813,  
2318.3889795000246, 2492.5070545946824, 2666.786240237934,  
2841.216262277051]
```