

## Palindromic Speeding

The odometer of a family car shows 15,951 miles. The driver noticed that this number is palindromic: it reads the same backward as forward. Surprised, the driver saw his third palindromic odometer reading (not counting 15,951) exactly five hours later. How many miles per hour was the car traveling in those 5 hours (assuming speed was constant)?

## Solution

62. Realistically, the first digit of 15,951 could not change in 5 hours. Therefore, 1 is the first and last digit of the new number. Clearly, the second and fourth digits changed to 6. So the next three resulting palindromes are 16,061, 16,161, and 16,261. Thus, the car traveled 310 miles in 5 hours and must have been traveling 62 miles per hour