

# Homework 5

## Problem 1

A Lion rests under a palm tree somewhere near the Earth's equator. Find the speed of the Lion due to the Earth's spin about its axis. Express the result in m/s, using scientific notation. Assume that the circumference of the Earth is  $C=40,000\text{km}$ .

## Problem 2

Two speed climbers are racing an Audi car to the top of a mountain. The climbers can go in a straight line from the bottom to the top of the mountain, which has a height of 1,200ft. The climbers average a speed of 0.17ft/s. The car has to go through narrow sinuous roads, so its average speed in the race is 29.3mph. The road to the top of the mountain is 60 miles long. Who will win the race, the climbers or the car? By how much?

Once you have made your prediction, you can watch the race take place at <https://www.youtube.com/watch?v=xKLSBk5CijQ>