Problem 1

Name		
ASTR 1050		

Fall 2025

1. Driving in another country, you notice the speed limit is  $30 \text{ m s}^{-1}$ . What is the speed limit in miles per hour? There are 5000 m in 3.1 miles.

2. The Hubble Constant (discussed later in the course) is measured to be approximately  $H_0 = 72 \text{ km s}^{-1} \text{ Mpc}^{-1}$ . Convert this quantity into units years<sup>-1</sup>. There are  $3.09 \times 10^{16} \text{ m}$  in 1 pc and  $10^6 \text{ pc}$  in 1 Mpc.