NAME:

For each question, give a detailed explanation and show your work.

Speed of light	Speed of sound
300,000,000 m/sec	340 m/sec

1. **Using approximate values for speed of light and sound in the air that are given above, <u>calculate the time</u> it takes <u>light</u> and <u>sound</u> to travel:**

   a. **one mile in the air, 1 mile = 1,609 m**

   b. **from the Earth to the Moon in space, distance = 384,400 km (be careful with this one ☺)**

2. **Compare the values obtained in (1a) by means of orders of magnitude.**

   Difference is _____ orders of magnitude.

3. **What commonly observed natural phenomenon is due to this difference?**