NAME:

For each question please show your work!

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

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

b. Did you get the *big difference between those two times* in (a)? What commonly observed <u>natural phenomenon</u> is due to this difference?

c. Now calculate how long would it take <u>light</u> to travel from the Earth to the Moon *in space*, distance = 384,400 km, use the same value for the speed of light.

d. <u>Why am I not asking</u> you to calculate how long <u>sound</u> will travel from the Earth to the Moon? ☺