Name: _____ _____/ 8

Chapter 20.1 Homework
Conceptual Physics Parent Signature: _____

Each numbered question is worth one point unless otherwise noted.

Reviewing Concepts

1. Imagine you are cruising in outer space in a spaceship when you notice an asteroid hurtling towards your ship. You fire a missile and score a direct hit. The asteroid explodes into a billion pieces. Would you hear the explosion? Explain your answer.

2. How do we recognize people's voices?

3.What does the decibel scale measure?

4. If a fire engine moves toward you, does the pitch of its siren increase or decrease? Explain.

5. How fast does an airplane need to be traveling to create a sonic boom? Is this speed supersonic or subsonic?

6. How is stereo sound recorded, and why does it sound "live?"

Solving Problems

1. The sound of ordinary conversation 3 feet away is 65 dB and the sound in a restaurant is 45 dB. (2)

a. To our ears, how much louder is the ordinary conversation than the restaurant sound?

b. How much larger is the amplitude of the sound waves in ordinary conversation than in the restaurant?