Displacement and Velocity Worksheet

1. Calculate the total displacement of a mouse walking along a ruler, if it begins at the location x = 5cm, and then does the following:
   1. It walks to x=12cm
   2. It then walks a displacement of -8cm
   3. Lastly, it walks to the location x = 7cm
2. Find the average velocity (in m/s) of a cyclist that starts 150 meters north of town and is 1200 meters north of town after 30.0 minutes.
3. Explain what is wrong with the following statement: A man walked at an average velocity of 5.2m/s.
4. A school bus takes 0.53 hours to reach the school from your house. If the average speed of the bus is 19km/h, what is the displacement of the bus during the trip?
5. A girl participating in cross-country spends the afternoon practicing, and ends the practice completely tired from her hard work, despite the fact that her average velocity during the practice was 0.0m/s. Explain how this situation is possible.
6. A hiker is at the bottom of a canyon facing the canyon wall closest to her. She is 280.5 meters from the wall and the sound of her voice travels at 340 m/s at that location. How long after she shouts will she hear her echo? (Be careful to consider why echoes happen.)