Acceleration Problems III

Physical Science and Technology

Use your own piece of paper to complete these problems. Please show the Five Steps for every problem.

1. A turtle is strolling down a road. It has an initial velocity of 4.7 m/s. If it accelerates at a rate of 1.1 m/s^2 for 16.4 s, what will its final velocity be?

2. A velociraptor is jumping off a very short mountain. When it lands, its final velocity is 12.2 m/s. If it fell for 4.2 seconds, and it accelerated at 9.8 m/s^2, what was its initial velocity?

3. A fish is swimming through the ocean. At first, it is swimming at 1.13 m/s (initial velocity). It accelerates at 0.25 m/s^2 until it is swimming at 3.41 m/s (final velocity). For how much time did it accelerate?

4. A slug is sliming across a field. Before it starts sliming, it is motionless (its velocity is 0 m/s). By the time it gets to the other side of the field, its velocity is 0.73 m/s. If it was sliming for 107.5 seconds, what was its acceleration?

5. A bat is flying through the sky. If it starts flying at 8.2 m/s and over a time of 172.8 seconds accelerates at 0.18 m/s^2, what will its final velocity be?