Acceleration- Time Graphs

Dr. Daisy Duck of ACME's Data Division needs the following questions answered.

1. Circle the statement below that best describes the motion of the object from 0.0 seconds to 0.37 seconds

    A.   Cart is moving with a constant velocity.

    B.   Cart is moving with a constant, non-zero acceleration.

    C.   Cart is moving with a varying acceleration.

If you marked B then also give the cart's acceleration.

2. Circle the statement below that best describes the motion of the object from 0.37 seconds to 0.88 seconds

    A.   Cart is moving with a constant velocity.

    B.   Cart is moving with a constant, non-zero acceleration.

    C.   Cart is moving with a varying acceleration.

3. Based upon your answer to problem 2, are the kinematic equations valid during this time period. Explain.

4. Circle the statement below that best describes the motion of the object from 0.88 seconds to 2.15 seconds

    A.   Cart is moving with a constant velocity.

    B.   Cart is moving with a constant, non-zero acceleration.

    C.   Cart is moving with a varying acceleration.

5. Based upon your answer to problem 4, are the kinematic equations valid during this time period. Explain.

6. Circle the statement below that best describes the motion of the object from 2.35 seconds onward.

    A. Cart is moving with a constant velocity.

    B. Cart is moving with a constant, non-zero acceleration.

    C. Cart is moving with a varying acceleration.

7. Based upon your answer to problem 6, are the kinematic equations valid during this time period. Explain.

8. Was the change in the velocity of the object positive or negative from 0.37 seconds to 0. 8 seconds? Explain your method.

9. Find the approximate time when the object returns to its initial velocity? Explain your method.