

Velocity- 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 0.3 seconds
 - A. Cart is stationary.
 - B. Cart is moving with a constant, non-zero velocity.
 - C. Cart is moving with a constant, non-zero acceleration.
 - D. Cart is moving with a varying acceleration.

If on problem 1, you marked A, B, or C answer the corresponding letter question (i.e. 1A, 1B, or 1C).

1A. What is the location of the cart (number)?

1B. What is the velocity of the cart (number)?

1C. What is the acceleration of the cart (number and uncertainties)?

2. Circle the statement below that best describes the motion of the object from 0.3 seconds to 0.47 seconds
 - A. Cart is stationary.
 - B. Cart is moving with a constant, non-zero velocity.
 - C. Cart is moving with a constant, non-zero acceleration.
 - D. Cart is moving with a varying acceleration.

If on problem 2, you marked A, B, or C answer the corresponding letter question for problem 2 (i.e. 2A, 2B, or 2C).

2A. What is the location of the cart (number)?

2B. What is the velocity of the cart (number)?

2C. What is the acceleration of the cart (number and uncertainties)?

3. Circle the statement below that best describes the motion of the object from 0.47 seconds to 0.75 seconds

- A. Cart is stationary.
- B. Cart is moving with a constant, non-zero velocity.
- C. Cart is moving with a constant, non-zero acceleration.
- D. Cart is moving with a varying acceleration.

If on problem 3, you marked A, B, or C answer the corresponding letter question for problem 3 (i.e. 3A, 3B, or 3C).

3A. What is the location of the cart (number)?

3B. What is the velocity of the cart (number)?

3C. What is the acceleration of the cart (number and uncertainties)?

4. Circle the statement below that best describes the motion of the object from 0.85 seconds to 2.2 seconds.

- A. Cart is stationary.
- B. Cart is moving with a constant, non-zero velocity.
- C. Cart is moving with a constant, non-zero acceleration.
- D. Cart is moving with a varying acceleration.

If on problem 4, you marked A, B, or C answer the corresponding letter question for problem 4 (i.e. 4A, 4B, or 4C).

4A. What is the location of the cart (number)?

4B. What is the velocity of the cart (number)?

4C. What is the acceleration of the cart (number and uncertainties)?

5. Circle the statement below that best describes the motion of the object from 2.3 seconds to 4.3 seconds.

- A. Cart is stationary.
- B. Cart is moving with a constant, non-zero velocity.
- C. Cart is moving with a constant, non-zero acceleration.
- D. Cart is moving with a varying acceleration.

If on problem 5, you marked A, B, or C answer the corresponding letter question for problem 5 (i.e. 5A, 5B, or 5C).

5A. What is the location of the cart (number)?

5B. What is the velocity of the cart (number)?

5C. What is the acceleration of the cart (number and uncertainties)?

6. Circle the statement below that best describes the motion of the object from 4.3 seconds onward.

- A. Cart is stationary.
- B. Cart is moving with a constant, non-zero velocity.
- C. Cart is moving with a constant, non-zero acceleration.
- D. Cart is moving with a varying acceleration.

If on problem 6, you marked A, B, or C answer the corresponding letter question for problem 6 (i.e. 6A, 6B, or 6C).

6A. What is the location of the cart (number)?

6B. What is the velocity of the cart (number)?

6C. What is the acceleration of the cart (number and uncertainties)?

7. Find the object's displacement from $t = 0$ seconds to $t = 0.3$ seconds?

8. At what approximate time will the object have the greatest absolute displacement?