Checkout Questions

Lab 1. Acceleration and Velocity: How Does the Direction of Acceleration Affect the Velocity of an Object?

1. Two carts undergo positive acceleration, but their velocities are in opposite directions.

    a. Sketch each cart and label each one with arrows representing the directions of its velocity and its acceleration

    b. Sketch a single velocity versus time graph representing each cart.

    c. Sketch a single position versus time graph representing each cart.

2. Positive acceleration will cause an object to speed up.

    a. I agree with this statement.
    b. I disagree with this statement.

    Explain your answer, using an example from your investigation about the direction of acceleration and velocity.

3. *Observations* and *inferences* are terms that have the same meaning in science.

    a. I agree with this statement.
    b. I disagree with this statement.

    Explain your answer, using an example from your investigation about the direction of acceleration and velocity.

4. Scientists always design and carry out an experiment to answer scientific questions.

    a. I agree with this statement.
    b. I disagree with this statement.

    Explain your answer, using an example from your investigation about the direction of acceleration and velocity.

5. Why is it useful to identify patterns during an investigation? In your answer, be sure to include examples from at least two different investigations.

6. How are vector quantities and scalar quantities different in science? In your answer, be sure to include examples from at least two different investigations.