PASSAGE 2

The general principles of dynamics are rules that demonstrate a relationship between the motions of bodies and the forces that produce those motions. Based in large part on the work of his predecessors, Sir Isaac Newton deduced three laws of dynamics, which he published in 1687 in his famous *Principia*.

Prior to Newton, Aristotle has established that the natural state of a body was a state of rest, and that unless a force acted upon it to maintain motion, a moving body would come to rest. Galileo had succeeded in correctly describing the behavior of falling objects and in recording that no force was required to maintain a body in motion. He noted that the effect of force was to change motion. Huygens recognized that a change in the direction of motion involved acceleration, just as did a change of speed, and further, that action of a force was required. Kepler deduced the laws describing the motion of planets around the sun. It was primarily from Galileo and Kepler that Newton borrowed.

1. What is the main purpose of this passage?

(1) To discredit Newton's laws of motion
(2) To establish Newton as the authority in the field of physics
(3) To demonstrate the development of Newton's laws
(4) To describe the motion of planets around the sun

2. Which of the following scientists established that the natural state of a body was a state of rest?

(1) Galileo (2) Aristotle (3) Newton (4) Kepler

3. Huygens stated that, acceleration was required _____.

(1) only for a change in speed
(2) neither for a change in direction more for a change in speed
(3) for a change in direction or in speed
(4) only for a change in direction

4. The first scientist to describe the behavior of falling objects correctly was _____.

(1) Galileo (2) Kepler (3) Newton (4) Aristotle

5. According to the passage, Newton based his laws primarily upon the work of _____.

(1) Galileo and Copernicus (2) Huygens and Copernicus
(3) Huygens and Copernicus (4) Galileo and Kepler

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