

Name: \_\_\_\_\_

**AP Physics 1: Kinematics**  
**Free-Fall HW**

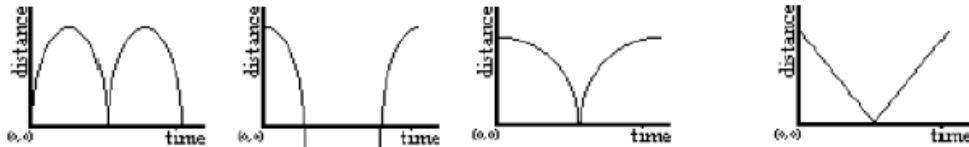
**Multiple Choice:**

- Starting from rest, object 1 falls freely for 4.0 s, and object 2 falls freely for 8.0 s. Compared to object 1, object 2 falls...
  - half as far
  - twice as far
  - three times as far
  - four times as far
- In the absence of air resistance, if an object were to fall freely near the surface of the Moon,
  - Its acceleration would gradually decrease until the object moves with a terminal velocity.
  - The acceleration is constant.
  - It will fall with a constant speed.
  - The acceleration is zero

**Questions 3 and 4**

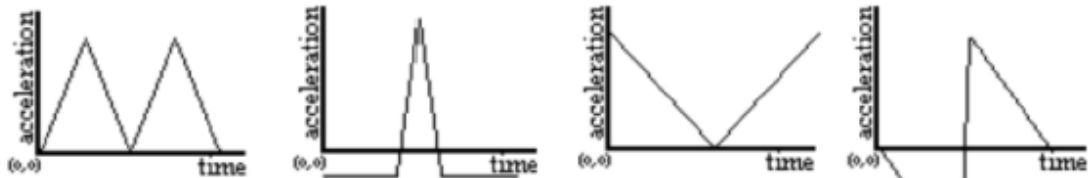
The following TWO questions refer to the following information. An ideal elastic rubber ball is dropped from a height of about 2 meters, hits the floor and rebounds to its original height.

- Which of the following graphs would best represent the distance above the floor versus time for the above bouncing ball?



A) B) C) D)

- Which of the following graphs would best represent acceleration versus time for the bouncing ball?



A) B) C) D)