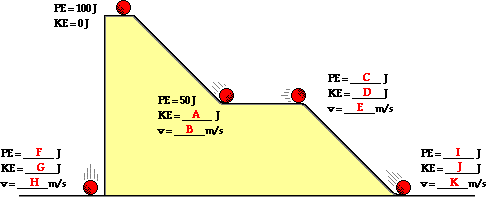
Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_\_\_\_\_\_\_\_

Energy Conservation in Practice:

1. Consider two round objects falling to the ground as shown. One object falls straight to the ground. The second object rolls down the hill. The masses of the objects are both 2kg.



 ANSWER here SHOW WORK here for answers **B, E, K, and H ONLY**)

A: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

B: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

C: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

D: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

E: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

F: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

G: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

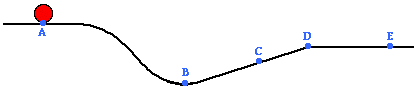
H: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

I: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

J: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

K: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

A ball rolls down the track going from A to E. In the following diagram neglect the affect of resistance forces. Use the diagram to answer questions 3-5



|  |  |
| --- | --- |
|  |  |
|  |  |
|  |  |

3. As the object moves from point A through points B, C, D and E; the Total Energy:

a. goes down b. goes down and then back up

c. stays the same d. goes up

4. The object will have minimum gravitational potential energy at point \_\_\_\_\_\_\_\_\_.

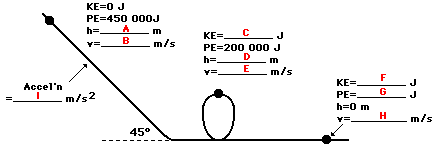
A B C D E

5. The object will have maximum gravitational potential energy at point \_\_\_\_\_\_\_\_\_.

A B C D E

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |

 6. Use the diagram below. Use the law of conservation of energy to fill in the blanks at the various marked positions for a 1000kg roller coaster car.



 A: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ B: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ c: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ D: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

E: ­\_\_\_\_\_\_\_\_\_\_\_\_\_\_ F: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ G: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ H: ­ \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Show your work here:

11. Determine the ski-jumper's speed at locations B, C, D and E.

