



PHYSLETS ANSWER SHEET

ES1A3

Energy / Set 1 / Animation 3

Name \_\_\_\_\_ Class \_\_\_\_\_

<Show all work on calculations. Include proper units. Explanations require complete sentences.>

1) Calculate the maximum **velocity** of each car (include direction).

Top car: \_\_\_\_\_ m/s    Middle car \_\_\_\_\_ m/s    Bottom car \_\_\_\_\_ m/s

2) Express the relative velocity of each car as a ratio; (i.e. top car : middle car : bottom car)

3) Calculate the kinetic energy of each car.

Top car: \_\_\_\_\_ J    Middle car \_\_\_\_\_ J    Bottom car \_\_\_\_\_ J

4) Express the relative kinetic energy of each car as a ratio; (i.e. top car : middle car : bottom car)

5) If the top and bottom car were to be stopped by the same constant braking force, how much farther would the bottom car travel before stopping?

\_\_\_\_\_ m