



Forces / Set 1 / Animation 3

Name _____ Class _____

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

- 1) Find the initial position of the sports car.

- 2) Use the “step button” to determine the elapsed time and position of the car when braking begins (the light turns red).

- 3) Calculate the initial velocity of the sports car (before braking).

- 4) What is the displacement (not position) of the car during the time that the brakes are applied?

- 5) Calculate the acceleration of the car during braking.

- 6) If the sports car has a mass of 1700kg, and the braking force is constant, what is the magnitude and direction of the net force needed to stop the car?

- 7) How realistic is this force?