PHYSLETS ANSWER SHEET **FS2A6**

Forces / Set 2 / Animation 6

Name _____ Class _____

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

1) Determine the reaction time of the driver; from the time the light turns yellow, until braking begins.

2) How far does the car travel during this time?

3) If the mass of the car is 1700kg, and the coefficient of friction between rubber and asphalt is .670. Calculate the force of friction on the car during the skid.

4) Calculate how much work was done by friction during the skid.

5) Use the work energy theorem to calculate the initial velocity of the sports car.

6) Verify the initial velocity of the sports car with a kinematics equation.

7) Explain how the state police might determine which driver in a car accident should be issued a speeding ticket.